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ABSTRACT

The second part of the four-part report of research on the development of a computerized, phrase-structure grammar of modern Hebrew describes the application of a generalized complex-constituent-phrase structure grammar to modern Hebrew. This volume discusses the details of the grammar: limitations, input and output, symbols, rules, tree diagrams, word classification, syntax, and orthography. An appendix provides a Hebrew-English dictionary. The grammar presented here provides new material for teacher training in the form of a transformational-type, theoretical model of modern Hebrew that views the language as an integrated whole. By studying the language this way, teachers of Hebrew can acquire a better understanding of the deep structure of the language. The formal presentation of the grammar, however, may not be the best form for training teachers. For related reports see FL 002 627, FL 002 629, and FL 002630. (Author/VM)

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FINAL REPORT

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Franklin Institute Report No. F-C2585-2

A COMPUTERIZED PHRASE-STRUCTURE GRAMMAR (MODERN HEBREW)

PART II

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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James D. Price
Franklin Institute Research Laboratories
20th and Race Streets
Philadelphia, Penn. 19103

June 1971

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PART II

A Complex-Constituent Phrase-Structure
Grammar of Modern Hebrew Syntax

James D. Price
Franklin Institute Research Laboratories
Philadelphia, Penn. 19103

June 1971

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U.S. DEPARTMENT OF

HEALTH, EDUCATION, AND WELFARE

Office of Education
Institute of International Studies

ABSTRACT

This is the second part of a four-part report of research for the development of a computerized phrase-structure grammar of modern Hebrew. This part describes the application of a generalized complex-constituent phrase-structure grammar (defined in Part I) to a specific Semitic language (modern Hebrew). The grammar consists of one initial symbol, 73 intermediate symbols, one variable symbol, and 20 terminal symbols, a set of 29 subscripts on the symbols, and a set of 76 replacement rules (with a total of 179 optional variations). Each element of the grammar is defined in detail and illustrated with examples.

The rules of the grammar were tested by means of a computerized algorithm for generating sentences in Hebrew (described in Part III) and by means of a computerized algorithm for analyzing sentences in Hebrew (described in Part IV). These tests uncovered numerous deficiencies in the rules of the grammar most of which were corrected in this present version. Of the 179 optional variations of the rules, 111 were tested. Since it was not possible to test all the rules in the scope of the present project, it is likely that additional deficiencies will be found. The tests demonstrate that this specific set of rules is essentially correct but that there is need for further research in certain areas outlined in the text. The tests also demonstrate that the generalized grammar is suited for mechanization on a computer and that it is adequate for defining the syntax and orthography of Hebrew. The results of this research give good reason to believe that the generalized grammar can be successfully applied to other Semitic languages such as Arabic.

2A

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Acknowledgment also is given to the Dropsie University, which provided, under subcontract, the classification of Hebrew words contained in Appendix A and described in Section 2.4 of this part. The work was performed by Mr. Ezra Cohen under the supervision of Dr. Federico Corriente, Professor of Semitic Linguistics. Mr. Cohen also made numerous helpful suggestions about the classification of words and about the rules of grammar.

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PART II

A COMPLEX-CONSTITUENT PHRASE-STRUCTURE GRAMMAR OF MODERN HEBREW SYNTAX[1]

This part of the report describes a complex-constituent phrase-structure grammar of modern Hebrew syntax, a grammar essentially complete in that it describes the basic structure of the syntax of modern Hebrew sentences, but incomplete in some finer details that can be included later by adding more rules to this foundation. The grammar provides new material for training teachers of Hebrew consisting of a transformational-type theoretical model of modern Hebrew that views the language as an integrated whole. A study of the language from this point of view will enable teachers of Hebrew to acquire a better understanding of the deep structures of the language and of the associated processes than has been available to them in the past. However, the material is organized as a formal presentation of the grammar, which is not necessarily the best form for training teachers.

The first section contains introductory material. The second section presents a formal and detailed description of the grammar. The third section contains tree diagrams of sentences generated or analyzed by means of a computer, making use of the computerized version of this grammar. The sentences serve as examples and illustrations of the rules of the grammar as noted throughout the text.

2.1 Introductory Considerations

This section provides introductory material that defines the limitations, input and output requirements of the grammar.

2.1.1 Limitations of Grammar

The grammar in its present form is limited to the syntax of sentences. It is recognized that there are structural relationships between sentences[2] that determine such things as the use of the article[3], the inflection of pronouns, the use of demonstrative pronouns, the use of qualifiers such as *all, some,* and so forth. Rules for these inter-sentence relationships may be written at a later time, since the grammar incorporates this capability.

---

[1] The material in Part II is based on Chapter IV of J. Price's *The Development of a Theoretical Basis for Machine Aids for Translation from Hebrew to English,* a Ph.D. dissertation submitted to Dropsie University (1969). Extensive revisions have been made as a result of the research and computer tests conducted on this project.

The grammar contains phrase-structure rules of the deep structure[4] of the language, and phrase-structure rules for generating surface structures. The subscripts of the complex constituents provide the capability of performing operations similar to Chomsky's transformations. Some constituents could have been derived from "kernel sentences", but rules were not written for such derivation. These rules were not written for two reasons: (1) because they would not serve the purposes of the present research, or (2) further study is required. In these cases, the rules of the grammar define a relationship between constituents that assumes such an underlying derivation. Often the text associated with the rule discusses assumed derivations.

Finally, the grammar does not treat man common syntactic idioms,[5] one important exception being the idiom of possession. Rules for syntactic idioms may be written at a later time.

Because of these limitations, the grammar will generate only a subset of the possible sentences in Hebrew. However, with the capability of multiple branching, self imbedding, and unlimited compounding, the grammar will generate an infinite variety of sentences within the framework of this subset of modern Hebrew.

2.1.2 Input to the Grammar

The input to the grammar used in its generative mode is the equivalent of the output of an English-to-Hebrew transfer grammar. This transfer grammar supplies the Hebrew dictionary equivalent of the English semantic units, and answers questions about the deep structure of the sentence to be generated, such as

---

[2] The acient Hebrew grammarians, being concerned chiefly with questions of phonology and morphology, made comparatively slight reference to matters of syntax. Even M.Z. Segal in *The Grammar of Mishnaic Hebrew* does not consider the fact that syntax should go beyond the bounds of a sentence. The first explicit inquiry into this question seems to be the work of Z.S. Harris in "Discourse Analysis", *Language* Vol. 28, 1952, pp. 1-30; 474-494, and in his more recent series *Discourse Analysis Reprints,* Mouton, The Hague, 1963. U. Ornan in his dissertation *The Nominal Phrase in Modern Hebrew*, 1965, considers some of these problems for Hebrew.

[3] See U. Ornan's chapter on the article in his *The Nominal Phrase in Modern Hebrew,* 1965.

[4] For a discussion of surface structure and deep structure in language see Noam Chomsky's *Syntactic Structures*, Mouton, The Hague, 1957, see also Section 1.4 of Part I of this report.

[5] Examples of syntactic idioms would be the idiom for age (BN + number (+ SNH)), the idiom for time, money, date, and so forth.

(1) is the sentence a declaration, question, command?

(2) are there dependent circumstances?

(3) is the voice[6] active, passive, reflexive, and so forth?

These deep structure decisions seem to be related to the structure of language in general and not confined to the syntax of Hebrew in particular. Therefore, it is proper to assign these decisions to the transfer grammar rather than to the syntax grammar. For this reason, an educated human acquainted with grammar, but not necessarily knowing Hebrew, may serve as manual input for the syntax grammar in place of a non-existent computerized English-to-Hebrew transfer grammar.

The input to the grammar, used in its analytic mode, is the equivalent of the output of an analysis grammar of Hebrew orthography. For each input constituent it defines syntax category, class, number, gender, person, mood, tense, etc. Such a grammar exists[7] and ultimately will be used to supply input data. However, at this stage these data are supplied manually.

2.1.3 Output of the Grammar

The output of the syntax grammar used in its generative mode is a sequence of terminal symbols with computed values for their complex descriptors. These symbols serve as input for the grammar of orthography, the output of which is a sequence of inflected words in the correct orthography and syntactic order of modern Hebrew. In addition a tree diagram is produced that defines the complete syntactic structure of the generated sentence. See Section 2.3.1 for samples of the output of the generative mode. The sample sentences are referred to throughout the text to illustrate the rules of the grammar. Since each sentence illustrates the operation of many different rules, the sample sentences are placed in one section rather than scattered throughout the text.

---

[6] In the case of voice, the correct stem of the verb must be selected from the dictionary which also supplies verb type and other syntactic descriptors. Thus a transitive verb may be Class 3 in the active voice, Class 4 in the passive voice, and Class 2 in the reflexive voice. See Section 2.2.2.4.18 for description of verb class.

[7] See J. Price's dissertation, Appendix II, and his "An Algorithm for Analyzing Hebrew Words", *Computer Studies in the Humanities and Verbal Behavior*, Vol. II, No. 3, October, 1969.

The output of the grammar used in its analytic mode is a list of analytic statements about the sentence, together with a tree diagram of the computed syntactic structure of the sentence. See Section 2.3.2 for samples of the output of the analytic mode.

The Hebrew sentences are written in transliterated English characters. The transliteration is different than the one commonly used in order to provide a set of characters for use on a computer that has an unambiguous one-to-one correspondence with the Hebrew characters. Table 2-1 contains the transliteration.

2.2 The Formalized Grammar of Hebrew Syntax

The complex-constituent phrase-structure grammar of modern Hebrew syntax consists of a set of subscripts (Δ), a set of variable symbols (Γ), a set of initial symbols (Φ), a set of intermediate symbols (χ), a set of terminal symbols (T), and a set of unordered replacement rules (Ω).

There are 21 subscripts[8], one variable symbol, one initial symbol, 73 intermediate symbols, 20 terminal symbols, and approximately 179 replacement rules[9]. The following sections define, describe, and illustrate these constituents of the grammar in detail.

2.2.1 Symbol Subscripts (Δ)

The constituent elements of the grammar are defined as complex because they have up to twenty-one independent grammatical attributes.[8] These attributes are expressed by a set of subscripts (Δ) on the symbols of the grammar. The subscripts are written below the line and enclosed in parentheses. Example:

$$F_{(mfkbc\ell ydngpravitswjhx)}$$

The subscripts provide the grammar with the capability of performing operations similar to Chomsky's transformations. Subscript c (symbol class) provides for selecting alternate forms of a symbol that, in some cases, imply different deep structure derivations. These implied derivations are discussed in the text at the appropriate places.

---

[8] The generalized grammar lists 29 subscripts. Subscript w actually is 4, w_1, w_2, w_3, and w_4; other subscripts that serve bookkeeping functions are not treated in this section.

[9] Actually there are only 76 rules. The 179 accounts for the optional variants of these rules.

Table 2-1

THE TRANSLITERATION

Hebrew Letter	English Letter	Hebrew Letter	English Letter
א	A	ל	L
ב,בּ	B	מ ם	M
ג	G	נ ן	N
ד	D	ס	C
ה	H	ע	O
ו	W	פ,פּ ף	P
ז	Z	צ ץ	&
ח	X	ק	Q
ט	@	ר	R
י	Y	שׂ,שׁ	S
כ,כּ ך	K	ת	T

The set of subscripts and the associated attribute is as follows:

Δ : m--optional/mandatory

f--compounding pattern

k--number of times compounded

b--connective type

c--symbol class

ℓ--negative class

y--negative/positive

d--indefinite/definite

n--number

g--gender

p--person

r--prepositional modifier class

a--verb modifier class

v--voice

i--mood

t--tense

s--stem class

w--root

j--state

h--fem. noun class

x--number gender transform

The subscript for a given attribute always occupies the same position within the parentheses.

The attributes of a constituent element may be one of the following types:

(1) nonoperative
(2) fixed
(3) a dependent variable
(4) an independent variable

If an attribute of a given constituent is *nonoperative*, the associated subscript of the symbol is zero. If the attribute is *fixed*, the associated subscript is a numeral (or in case of subscript w, transliterated Hebrew letters). If the attribute is a *dependent variable*, the associated subscript is a lower case alphabetic. If the attribute is an *independent variable*, the associated subscript is 9. For example, in the symbol

$$F_{(109c)}$$

the first attribute m has a *fixed* value of 1; the second attribute f is *nonoperative;* the third attribute k is an *independent variable* to which any valid value may be assigned; the fourth attribute c is a *dependent variable,* the value of which is dependent on another symbol.

Attributes that are *fixed* or *nonoperative* are not changed by operations of the grammar. Attributes that are *independent variables* must have values assigned to them from a source external to the grammar (i. e., by input specifications). Attributes that are *dependent variables* have computed values assigned to them by the grammar. The use of *dependent variables* gives the grammar context-sensitive capability for governing the concord of redundant semantic information distributed throughout a phrase.

The fixed values of the subscripts are associated with the grammatical attributes as follows:

Subscript	Value	Attribute
m:	0=	the symbol is omitted
	1=	the symbol is mandatory
	9=	the symbol is optional
f:	0=	no compounding permitted
	1=	compounding pattern 1 required
	2=	compounding pattern 2 required
	etc.	
k:	0=	symbol appears once
	2=	symbol repeated twice in given pattern
	etc.	

Subscript	Value	Attribute
b:	0=	does not apply
	1=	conjunctive compounding ("and")
	2=	disjunctive compounding ("or")
	3=	disjunctive compounding ("either__or__")
	4=	negative disjunctive compounding ("neither__nor__")
c:	1=	symbol class 1
	2=	symbol class 2
	etc.	
ℓ:	0=	no negative permitted
	1=	class 1 negative permitted
	2=	class 2 negative permitted
	etc.	
y:	0=	positive, symbol is not negated
	1=	negative, symbol is negated
d:	0=	does not apply/collective
	1=	indefinite
	2=	definite
n:	0=	no number attribute/ambiguous
	1=	singular
	2=	dual
	3=	plural
g:	0=	no gender attribute/ambiguous
	1=	masculine
	2=	feminine
p:	0=	no personal attribute/ambiguous
	1=	first person
	2=	second person
	3=	third person
r:	0=	does not apply
	1=	Preposition Class 1 required
	2=	Preposition Class 2 required
	etc.	
a:	0=	does not apply
	1=	Verb Modifier Class 1
	2=	Verb Modifier Class 2
	etc.	

Subscript	Value	Attribute
v:	0=	does not apply
	1=	active voice
	2=	passive voice
	3=	reflexive voice
i:	0=	does not apply
	1=	indicative mood
	2=	imperative mood
	3=	subjunctive mood
t:	0=	does not apply
	1=	past tense
	2=	future tense
	3=	present tense
	4=	past continuous tense
	5=	future continuous tense (Mishnaic Hebrew only)
	6=	pluperfect tense (Subordinate
	7=	future perfect tense clauses only)
s:	0=	does not apply
	1=	Stem Class 1
	2=	Stem Class 2
	etc.	
w:		This subscript designates the root letters of a terminal symbol. In certain syntactical contexts the root letters of symbols must be same. Specific values of *w* are designated by up to four transliterated Hebrew letters.
	0=	does not apply
	Q@L=	root for "to kill"
	etc.	
j:	0=	does not apply
	1=	absolute state
	2=	construct state
	3=	suffix state
h:	0=	feminine singular nominals use H
	1=	feminine singular nominals use T
x:	0=	does not apply
	1=	number-gender transform 1
	2=	number-gender transform 2
	etc.	

2.2.2. The Symbols

The grammar has four sets of symbols

Γ : variable symbols
Φ : initial symbols
χ : intermediate symbols
T : terminal symbols

2.2.2.1 Variable Symbols (Γ)

The grammar has one variable symbol, F, that represents any other symbol in the grammar. It is used for writing rules that cover a wide range of symbols, such as rules of negation, rules of compounding, etc. One rule on F replaces many redundant rules on other symbols. Specific uses of F are given in the section on rules.

2.2.2.2 Initial Symbols (Φ)

In the construction of a sentence, the grammar begins with one of the set of initial symbols. Initial symbols have attributes that are fixed or independent variables only, and they appear only on the right hand side in replacement rules. The Hebrew Grammar has only one initial symbol (S_c) which stands for a completed sentence. The symbol has three classes:

Class 1: completed declarative sentence
Class 2: completed interrogative sentence
Class 3: completed imperative sentence

All sentences are defined under one of these three classes in the section on rules.

2.2.2.3 Intermediate Symbols (χ)

Intermediate symbols are used by the grammar during the construction of a sentence. The Hebrew grammar has 73 intermediate symbols (Table 2.2). Specific definitions of the symbols are given in the section on rules. The names of the symbols do not always reflect the identity of the distinctive linguistic feature associated with the symbol. Likewise, the rules of the grammar do not always clearly identify the value of the feature associated with the various options of the rule. More work is required to clarify some of these details.

Table 2.2

LIST OF INTERMEDIATE SYMBOLS (χ)

Symbol	No. of Classes	Description
A_p	1	Post-Nominal Adjective Phrase
A_{pa}	3	Basic Post-Nominal Adjective Phrase
A_s	2	Adjectival Possessive Phrase
B_a	2	1-999 Number Phrase
B_{aa}	3	Units Number Phrase
B_{ab}	1	Tens Number Phrase
B_{ac}	3	Teens Number Phrase
B_{ad}	2	Multi-tens Number Phrase
B_{ae}	3	Hundreds Number Phrase
B_{af}	3	Thousands Number Phrase
B_{ba}	5	1-99 Number Phrase
B_{bb}	2	100-999 Number Phrase
B_{bc}	2	1000-9999 Number Phrase
B_c	2	Definite Number Phrase
B_p	2	1-9999 Number Phrase
D_p	5	Adverb Phrase
D_{pd}	2	Copulative Adverb Phrase
E_a	1	Basic Participle Phrase
E_p	1	Participle Phrase

Table 2.2 -- Continued

Symbol	No. of Classes	Description
E_{pa}	2	Absolute/Construct Participle Phrase
E_{pb}	2	Construct Participle Phrase
K_c	4	Circumstantial Dependent Clause
K_d	2	Discourse Clause
K_i	4	Interrogative Clause
K_k	1	Conditional Clause
K_n	2	Subject-Object Dependent Clause
N_a	3	Basic Noun Phrase
N_{ap}	3	Appositional Phrase
N_{ip}	2	Indirect Phrase
N_o	2	Direct Object Phrase
N_{op}	2	Object Phrase
N_p	1	General Noun Phrase
N_{pa}	3	Regular Noun Phrase
N_{pb}	3	Simple Noun Phrase
N_{pc}	1	Appositional Noun Phrase
N_{px}	5	Copulative Phrase
N_s	1	Possessive-Pronoun Noun Phrase
N_{sp}	4	Subject Phrase
N_v	3	Infinitive Construct Phrase
N_w	1	Infinitive Absolute Phrase

Table 2.2 -- Continued

Symbol	No. of Classes	Description
R_d	3	Basic Demonstrative Pronoun Phrase
R_g	3	Relative Pronoun Clause
R_o	1	Direct Object Pronoun Phrase
R_{sp}	2	Subject Pronoun Phrase
S	3	Basic Sentence
S_a	3	Independent Clause
S_{aa}	4	Possessive Independent Clause
S_{ab}	6	Definite Independent Clause
S_{ac}	1	Indefinite Independent Clause
S_c	3	Completed Sentence
S_d	2	Dependent Clause Sentence
S_i	3	Interrogative Sentence
S_{qo}	2	Objective Interrogative Phrase
S_{ro}	2	Objective Relative Phrase
S_{ri}	2	Indirect Relative Phrase
V_a	1	Verb Phrase
V_{aa}	1	Seven-Tense Verb Phrase
V_b	1	Verb-Mood Phrase
V_{bb}	1	Three-Tense Verb Phrase
V_c	3	Emphatic Verb Phrase
V_m	8	Verb Modifying Phrase
V_{ma}	3	Direct Object Verb Modifying Phrase
V_{mb}	3	Indirect Object Verb Modifying Phrase

Table 2.2 -- Continued

Symbol	No. of Classes	Description
V_{mc}	4	Discourse Verb Modifying Phrase
V_{md}	3	Double Accusative Verb Modifying Phrase
V_{mi}	3	Verb Modifying Phrase (Ind. Rel. Clause)
V_{mr}	5	Verb Modifying Phrase (Obj. Rel. Clause)
V_p	1	Verb Phrase
V_{qo}	1	Objective Interrogative Verb Phrase
V_{rb}	1	Verb Phrase (Obj. Rel. Clause)
V_{ri}	1	Verb Phrase (Ind. Rel. Clause)
X_p	3	Prepositional Phrase
Z	1	Prepositional Pronoun Phrase

2.2.2.4 Terminal Symbols (T)

The terminal symbols of the grammar are those for which there are no replacement rules. The final product of the grammar is a set of terminal symbols arranged in sequence as a sentence. The terminal symbols represent the words of a sentence with all their grammatical attributes defined. The Hebrew Grammar has 20 terminal symbols[10] (Table 2.3). Specific definitions of the terminal symbols for the Hebrew Grammar symbols are given in the sections that follow.

The terminal symbols become the input data for the grammar of Hebrew orthography. Combined together in their generative mode the two grammars produce sentences in modern Hebrew in their correct inflected orthography.

---

[10] Present evidence indicates that this number can be reduced to 16. By the proper use of subscript j in the rules, a separate symbol for the construct state of nouns, numbers, participles, and infinitives is not needed.

Table 2.3

LIST OF TERMINAL SYMBOLS (τ)

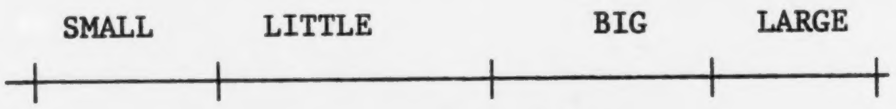
Symbols	No. of Classes	Description
A	1	Adjective
B	6	Number Absolute
C	8	Conjunctive
D	6	Adverb
E	8	Participle Absolute
G	8	Participle Construct
H	1	Definite Article
I	6	Number Construct
J	1	Noun Construct
L	5	Negative
N	3	Noun Absolute
O	1	Object Particle
P	13	Preposition
Q	2	Interrogative
R	5	Pronoun
T	8	Punctuation Mark
U	7	Particle
V	8	Verb
W	8	Infinitive Absolute
Y	8	Infinitive Construct

2.2.2.4.1 Adjectives (A)

Adjectives are usually defined as words that modify nouns, but more specifically they are words that are found in the following syntactic constructions:

(a) N + A
(b) N + *HYH(is)* + A

An adjective is the name of a value on the scale of some semantic dimension of the noun which it modifies. For example, the phrase *a small boy* implies that boys have the semantic dimension *size*, and it states that the boy in question is characterized by the value "small" on the scale. The scale may be illustrated as follows:



Semantic Dimension "Size"

Value names (adjectives) usually come in pairs, a value and its symmetric opposite.

Example: little -- big
small --- large

The negative of a value usually implies its symmetric opposite:

Example: not little → big
not small → large
not big → little
not large → small

Adjectives have attributes m, f, k, b, c, ℓ, y, d, n, g, j, h, and x. The attributes d, n, and g (definiteness, number, and gender) are dependent variables that are governed by the noun which it modifies. They may be compounded; negation is with LWA.

Example: @WB--*good*
YPH--*nice*
GDWL--*big*

Adjectives are found in the construct state, however, the syntax of adjectives construct is not included in the grammar at this time. Numbers are treated as a separate symbol. Adjectives presently are in one class. Future research may define syntactic classes among the adjectives similar to those found in other languages.

In general, the classification and order of Hebrew adjectives is approximately the same as in English. Those adjectives that appear closest to the noun in English also appear closest to the noun in Hebrew, so that adjectives that come first in English come last in Hebrew.[11]

2.2.2.4.2 Numbers Absolute (B)

Numbers do not take the same syntactic constructions as adjectives. They are inflected very similar to nouns and the construct number (I) is syntactically equivalent to a construct noun (J). However, numbers exhibit some unique differences from nouns and are thus treated as a different symbol in the grammar. Numbers appear in the following syntactic constructions:

(a) B + (N)
(b) N + B

where B may be a number phrase.[12] Numbers have the attributes m, c, n, g, and j; they are different from nouns in that they are not compounded and are not negated except in special cases. The attribute n (number) is usually fixed and the attribute g (gender) is usually a dependent variable under control of an associated noun. However, the syntactic gender of a number is sometimes opposite to that of its inflectional form.

There are six classes of numbers:

-Class 1: one--(AXD/AXT)
-Class 2: two--(SNYYM/STYYM)
-Class 3: three through nine
-Class 4: ten
-Class 5: hundred
-Class 6: thousand

All numbers from 1 to 9,999 are formed by combining these numbers. Higher numbers pose no problem, but were not included at this time.

The numbers *one* and *two* form unique constructions and follow a separate rule governing gender. The number *ten* is unique in that its singular form means 10 and its plural means 20.

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[11] Haiim B. Rosen, *A Textbook of Israeli Hebrew*, The University of Chicago Press, Chicago (1969), p. 48.

[12] The term "phrase" is used throughout the text to mean a group of one or more words that serve a unique syntactic function.

The numbers *three* through *nine* form a unique class in that their masculine plural inflection means the appropriate multiple of ten, i. e., the plural of *eight* means *eighty*.

The numbers 100 and 1000, together with all their multiples, are ambiguous in the gender attribute, as are all multiples of 10.

Numbers absolute are used to quantitate indeterminate objects, that is, they are used to specify the number of members of a class not previously defined. Numbers construct are used to quantitate determinate objects.

Examples: ARBOH YLDYM--- *four boys* (absolute)
ARBOT HYLDYM-- *the four boys* (construct)

2.2.2.4.3 Conjunctives (C)

The conjunctives comprise a set of constituent elements that perform one of two syntactic functions:

(a) connect two elements of the same type in the syntactic construction

$$F + C + F$$

(b) precede particular elements in the syntactic construction

$$C + F$$

The members of the set of conjunctive elements are determined on the basis of their common syntactic constructions and attributes, not according to classical grammatical classification. There are eight classes of conjunctives:

- -Class 1: W--*and*
- -Class 2: AW--*or*
- -Class 3: KY--*that* (Classical Hebrew only)
- -Class 4: KASR--*when;* @RM--*before;* OD--*until;* AXRY--*after;*etc.
- -Class 5: LMON--*in order that*
- -Class 6: YON--*because;* OQB--*because* (Classical Hebrew only)
- -Class 7: LAMWR--*saying*
- -Class 8: ABL--*but;* ALA--*but;* LKN--*therefore*

Conjunctives are never compounded and Classes 1, 2 and 8 are never negated. The other classes are negated with LWA. The results of the present research indicate that more work is required to more accurately classify the conjunctives.

2.2.2.4.4. Adverbs (D)

Adverbs usually are defined as words that modify verbs, adjectives, or other adverbs. The definition is inadequate for this grammar, consequently, Hebrew adverbs are divided into classes that are defined in accordance with their syntactic function. Adverbs are found in the following syntactic constructions:

(a) D + V
(b) V + D
(c) A + D
(d) D + D
(e) N_p + D

Adverbs have the attributes m, c, ℓ, and y. The terminal symbol D may not be compounded, however, adverb phrases may be. Negation is by Class 1 Negative (LWA). There are six classes of adverbs:

Class 1: Temporal adverbs. These words are names of values on the scale of the semantic dimension *time;* they answer the question--*When?* and they modify only verbs or equivalent. The following is a list of some temporal adverbs:

ATMWL ---- *yesterday*
HYWM ----- *today*
HORB ----- *tonight*
KBR ------ *already*
MXR ------ *tomorrow*
MXRTYYM -- *the day after tomorrow*
MYYD ----- *immediately*
MQWDM ---- *first*
OKSW ----- *now*
OTH ------ *now*
POM ------ *once* (indefinite, does not mean at a single time)
TMYD ----- *always*

Class 2: Locative Adverbs. These words are names of values on the scale of the semantic dimension *place;* they answer the question -- *Where?* and they modify only verbs and nouns or equivalent. The following is a list of some locative adverbs:

HNH ---- *here* (indicating direction)
KAN ---- *here* (indicating position)
MYMYN -- *at the right*
MSMAL -- *at the left*
PH ----- *here* (indicating position)
SM ----- *there* (indicating position)

Class 3: Qualitative adverbs. These words are names of values on various scales of semantic dimensions that define quality or manner of action; they

Class 3: (cont'd) answer the question -- *how?* -- and they modify only verbs or equivalent. They may be modified by class 4 adverbs. The following is a list of some qualitative adverbs:

AMNM ----- *truly*
BAMT ---- *truly, really*
BWWDAY -- *certainly, surely*
XYNM ---- *freely, vainly*
YXD ----- *together*
PTOWM --- *suddenly*
TKWPWT -- *frequently*

Class 4: Intensity adverbs. These words are names of values on the scale of the semantic dimension *intensity;* they answer the question -- *to what degree of intensity?* -- and they modify adjectives, Class 3 adverbs, and verbs or equivalent. The The following is a list of some intensity adverbs:

BYWTR -- *exceedingly*
DY ----- *rather* (as rather freely)
YWTR --- *more*
MAWD --- *very*
PXWT --- *less*

Class 5: Pluperfect adverb MS[13] that transforms a past tense verb into the pluperfect tense in Classical Hebrew.

Class 6: Future perfect adverb LKS[13] that transforms a future tense verb into the future perfect tense in Classical Hebrew.

2.2.2.4.5. Participles Absolute (E)

The participle absolute is a special grammatical inflection of Hebrew verbs that may serve in two syntactical constructions:

(a) It may take the place of a noun in which case it denotes the doer of the verbal action of its root. In this construction it may take direct and indirect objects like its corresponding verb.

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[13] Note that the classification of MS and LKS as adverbs is arbitrary. Others classify them as conjunctions.

(b) It may take the place of a verb in present tense constructions.

Participles have attributes *m, f, k, b, c, ℓ, y, d, n, g, p, r, a, v, j, h* and *x*. When serving as a noun, the attribute of definiteness (d) is operative; it is negated by a Class 1 negative (LWA), and it may be in the construct state. When serving as a verb, the attribute of definiteness (d) is non operative and the symbol is negated by a Class 2 negative (AYN).

There are eight classes of participles that are the same as the classes of verbs. Reference is made to the description of verbal symbols for a definition of these eight classes.

2.2.2.4.6 Participles Construct (G)[14]

Participles that serve as nouns may appear in the construct state. Because the participle construct has distinct orthography and distinct syntactic constructions, it is treated as a separate symbol. In all other respects the participle construct is the same as the participle absolute (E). The participle construct is found in the following syntactic constructions:

(a) G + N
(b) G + R

Participles construct have the same attributes and the same classes as participles absolute.

2.2.2.4.7 Definite Article (H)

The definite article is a prefixed word used to specify the attribute of definiteness for the word to which it is attached. The definite article appears in the following syntactic construction:

(a) H + N
(b) H + A
(c) H + E
(d) $H + B_p$
(e) H + R, c=1
(f) but not P + H, c<4

---

[14] See Section 2.2.2.4, footnote 10.

The definite article has attributes *m*, *c*, *ℓ*, and *y*. It is not compounded; it carries the negative of the symbol to which it is attached.

There is only one class of the **definite article** which consists of the one Hebrew prefix word H--*the*.

Hebrew has no indefinite article. See Section 2.2.3.5.6 for a discussion of undeterminated nouns.

2.2.2.4.8 Numbers Construct (I)[15]

Numbers, like nouns and participles, have a construct state that has distinct orthography and distinct syntactic constructions. In all other respects numbers construct (I) are the same as numbers absolute (B). Numbers construct are found in the following syntactic constructions:

I + N
I + B

where I is not a number phrase. A construct number is not compounded or negated.

There are six classes of numbers construct that are identical to the classes of numbers absolute (B). Reference is made to the description of numbers absolute for a definition of the classes.

2.2.2.4.9 Nouns Construct (J)[16]

Nouns have a construct state that has distinct orthography and distinct syntactic constructions. In all other respects nouns construct are the same as nouns absolute (N). Nouns construct are found in the following syntactic constructions:

(a) J + N
(b) J + R
(c) J + J

There is only one class of nouns construct; it is identical to Class 1 of nouns absolute (N). Reference is made to the description of nouns absolute for a definition of the class. Proper names do not have a construct state.

The construct state of a noun is used to indicate some relationship between the noun and the word immediately following. The relationship can usually be expressed in English by the word *of*.

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[15] See Section 2.2.2.4, footnote 10.

[16] See Section 2.2.2.4, footnote 10.

2.2.2.4.10 Negatives (L)

The negatives comprise a small set of words used to negate words, phrases, and clauses. They themselves are not negated and are not compounded. They appear in the syntactic construction:

$$L + F, \ell \neq 0, y = 1$$

where F represents any symbol in the grammar that may be negated.

There are four classes of negatives; class is determined by the variable ℓ.

-Class 1: LWA--this is the most widely used negative in Hebrew. It regularly negates most single words (nouns, adjectives, adverbs, etc.). It regularly negates verbal clauses in the indicative mood. It regularly negates noun clauses with pronominal subject (nonpersonal). It is the negative answer to questions of truthfulness, the positive answer to which is KN.

-Class 2: AYN--this word regularly negates noun clauses, being the negative form of YS--*there is*.

Example: AYN HYLD BBYYT--*The boy is not in the house*
AYN HYLD AWKL---*The boy is not eating*

When the subject of the clause is a personal pronoun, the pronoun is suffixed to AYN.

Example: AYNW BBYYT--*He is not in the house*
AYNH AWKLT--*She is not eating*

AYN is also used to negate present tense verb phrases. In this case a pronoun is suffixed to AYN that agrees with the subject in number, gender, and person.

Example: HYLDYM AYNM AWKLYM--*The children are not eating*

AYN also can take the place of the negated present tense copulative, in which case a pronoun is suffixed to AYN that agrees with the subject in number, gender, and person.

Example: HYLDYM AYNM BBYYT--*The children are not in the house*

-Class 3: LBLTY--*that not*--this is the regular negative of infinitives construct.

-Class 4: AL--this word regularly negates jussive and subjunctive verbal clauses, and it is used in conditional sentences.

2.2.2.4.11 Nouns Absolute (N)

Nouns usually are defined as names of persons, places and things. In this grammar nouns are defined as the names of classes of objects (either concrete or abstract) and the names of individual members of the classes. They are found in the following syntactic constructions:

(a) N + A

(b) N + HYH (is) + A

(c) N + V

(d) V + N

(e) P + N

(f) O + N

(g) J + N

Nouns have attributes *m,f,k,b,c,ℓ,y,d,n,g,p,j,h,x*. The attributes *n,q,* and *p* (number, gender, and person) are usually dependent variables that are governed by the contextual environment of the symbol. For example, when N is the subject of a verb, V, attributes *n*, *g*, and *p* of both symbols must agree; when N is modified by an adjective, *A*, attribute *d*, *n*, and *g* must agree.

Traditionally, nouns were not recognized to have the attribute of person. However, a rigorous analysis of the Hebrew noun demonstrates its existence. The rule has been that the subject must agree with the verb in number and gender. However, this rule does not prevent the ungrammatical sentence.

HYLD AKLT HTPWX

(the boy ate the apple)

where the subject (HYLD--*the boy*) agrees with the verb (AKLT--*ate*) in number and gender, both being masculine singular. However, the sentence is ungrammatical because the verb is second person. Evidently, agreement between subject and verb is required for the personal attribute. When the subject is a pronoun, the personal attribute has been recognized and agreement is required with the verb.

Two other facts demonstrate that nouns have the personal attribute. First, pronouns, which have the personal attribute, may replace nouns in a sentence. One would expect a pronoun to agree with the noun to which it refers, in number, gender, and person. Second, nouns are commonly divided into the names of *persons*, *places*, and *things*. The fact that there are personal and nonpersonal nouns implies that nouns have the personal attribute.

There are three classes of nouns:[16]

Class 1: nonpersonal nouns--this class consists of a large set of names of nonpersonal "things" both concrete and abstract, not including proper names. Nouns in this class may be collective, definite, or indefinite, when definite they require the definite article. They may be singular or plural, and they usually have a construct declension. They usually are third person.

Class 2: places names--this class consists of the set of names of places and countries. Nouns in this class are always definite but never take the definite article. They are usually third person. They do not have a construct declension, and are singular only.

Class 3: personal names--this class consists of the set of proper names of persons. Nouns in this class are always definite but never take the definite article. They may be first, second, or third person, depending on the context. They have no construct declension and are always singular.

2.2.2.4.12 Object Particle (O)

The object particle is the Hebrew word *AT* which is the untranslated sign of the direct definite object. It appears in the following syntactic constructions:

(a) $V_p + O + N_p$, d=2

(b) $V_p + O + R$, d=2, $c_r = 3$

The symbol has the attributes m, c, ℓ, and j. It is not compounded. There is only one class and only one word in the class.

2.2.2.4.13 Prepositions (P)

A preposition is broadly defined as a word that expresses the relationship of its object to some other constituent member of the senence. Prepositions are found in the following syntactic constructions:

---

[16] Research in semantic classification will result in a more complex descriptor system for nouns.

(a) $P + N_p$

(b) $P + R$

(c) $V_p + P$

(d) but not $P + H$, $r<4$

Prepositions have attributes m, c, ℓ, y, r, and j and they are not compounded. The attribute r is a dependent variable under control of a governing verb (where one exists), in other constructions it is an independent variable.

In all cases, class is specified by the variable r.

There are thirteen classes [17] of prepositions.

-Class 1: the inseparable preposition L--*to/for*
-Class 2: the inseparable preposition B--*in*
-Class 3: the inseparable preposition K--*like/as*
-Class 4: the inseparable preposition M--*from* (non-emphatic)
-Class 5: the preposition MN--*from* (emphatic)
-Class 6: Al--*to*
-Class 7: OL--*on*
-Class 8: OM--*with*
-Class 9: this class held vacant for computer programming reasons
-Class 10: LPNY--*before*
-Class 11: BPNY--*in the presence of*
-Class 12: AXRY--*after*
-Class 13: prepositions not governed by verbs

BLY-without

---

[17] Further research in the classification of prepositions as they relate to verbs will result in a more complex descriptor system for prepositions.

2.2.2.4.14 Interrogatives (Q)

The interrogatives comprise a set of constituents that introduce adverbial interrogative clauses. They are found in the following syntactic construction:

$$Q + S_a$$

Interrogatives have attributes *m* and *c* only; they are not compounded or negated.

There are two classes of interrogatives:

-Class 1: this class consists of the prefixed word, H, which is an untranslated sign of a question. It is used to introduce adverbial interrogative clauses.

-Class 2: this class consists of the interrogatives[18]

MTY--*when?*
AYK--*how?*
KMH--*how much?*
LMH--*why?*
MDWO--*why?*
etc.

Interrogative pronouns are not included in this set of constituents.

2.2.2.4.15 Pronouns (R)

Pronouns constitute that set of constituents that take the place of nouns. They are found in the following syntactic constructions:[19]

(a) R + HYH(is) + A
(b) $R_a + V$
(c) $V + R_b$

---

[18] Further research is required to correlate the classification of the Interogatives with their corresponding adverb phrase or equivalent.

[19] All listed syntactic constructions may not apply to every pronoun class.

(d) P + R

(e) O + R

(f) N + R, c=1,3

Pronouns have attributes m, f, k, b, c, ℓ, y, d, n, g, p and j in general. In certain constructions they may be compounded and they may be negated. There are six classes of pronouns:

-Class 1: demonstrative pronouns. This class is always definite and always third person (d=2, p=3).

Example: ZH--this(m), ZWT--this (f), ALH--these (m,f)

-Class 2: subject pronouns. This class is limited to nominative case constructions only

Example: ANY--*I*, AT--*You*, etc.

-Class 3: suffix pronouns. This class is usually limited to genitive or accusative case only, in constructions (c), (d), (e), and (f) above. These pronouns are suffixed to the word they modify. Suffix pronouns are not compounded or negated. Example: Y--*me*, T--*you*, etc.

-Class 4: relative pronouns.[20] This class consists of the two words S, and ASR--*that/which*. For these pronouns, the attributes d, n, q, and p are ambiguous; the words are undeclined.[21]

-Class 5: interrogative pronouns. For these pronouns, the attributes d, n, q, and p are ambiguous; the words are undeclined. Example: MY--*who?*. MH--*what?*, AYZH--*which?*, etc.

-Class 6: pronouns of vagueness. For these pronouns the attributes n and g are ambiguous; they are nondeterminate (d=0) and third person (p=3).

---

[20] Relative pronouns introduce relative clauses; it is the relative clause that is found in the above listed syntactic constructions.

[21] Because of this, Y. Hayon classifies these as *Relative Markers*. See his "Relative Clauses with Verbal Predicates," *Hebrew Computational Linguistics, Bulletin No. 3*, Bar-Ilan University, Ramat-Gan, Israel, January 1971, p.35.

MYSHWA--*someone*

LA-AXD--*no one*

MSHWA--*something*

(LA-)KLWM--*nothing*

Attribute *j* is zero for Classes 1, 2, 5, and 6. Class 4 pronouns (the relative) may govern a Class 3 (pronoun suffix). However, *j* functions differently for Class 3 pronouns than for any other class of words in the language. For all other words that possess the attribute (nouns, adjectives, numbers, verbs, participles, infinitives, the relative S, prepositions, and YS, AYN, SL, and AWT) it specifies a construct state for the given word when it governs a pronoun suffix; also for some of the words that possess the attribute (nouns, adjectives, numbers, participles, and infinitives) it specifies a construct state for the given word when it governs a noun phrase (or equivalent) in a generative relationship. For the pronoun suffix, however, *j* governs inflectional variants that the pronoun assumes in varying contextual environments.

2.2.2.4.16 Punctuation Marks (T)

Punctuation marks have attributes m and c only. They are not compounded or negated. Each one has its own unique syntactic structure. There are eight classes, each consisting of one punctuation mark:

-Class 1: left quote "
-Class 2: right quote "
-Class 3: comma ,
-Class 4: colon :
-Class 5: question mark ?
-Class 6: period .
-Class 7: exclamation mark !
-Class 8: maqqaph -

2.2.2.4.17 Particles (U)

Particles constitute a set of undeclined words each of which is found in its own unique syntactic structure. The classification of a a constituent as a particle is arbitrary as in the case of the conjunctives. since each constituent is independent of the others, it is merely a matter of convenience that they are represented as particles.

Particles have attributes m, c, ℓ, and y; they are not compounded. There are seven classes of particles:

-Class 1: the possessive particle SL.

Example: SLY--*mine*, SL HADAM--*the man's*

-Class 2: the subjunctive particle NA, untranslated. It is sometimes appended to a verb to indicate the subjunctive mood. It is not negated.

-Class 3: the copulative particle YS--*there is*. This word could be defined as a verb. However, since it is undeclined, and it is unique in its syntactic structures, it is classified as a particle for convenience. Its negative form is AYN--*there is not*.

-Class 4: conditional particle, LW--*if*. This particle is used in past conditional sentences. Its negative form is LWLY--*if not*, the next particle class.

-Class 5: negative conditional particle, LWLY--*if not*. This particle is the negative form of Class 4 particle above. The separate form is used since the Class 4 particle does not follow the regular negative construction.

-Class 6: conditional particle, AM--*if*. This particle is used in future conditional sentences. It follows the regular construction.

-Class 7: locative particle, H. This particle is suffixed to definite nouns of place to indicate the locative sense.

Example: HBYTH--*to the house*

The word could have been classified as a preposition. But since it is uniquely different from all other prepositions, it is classified as a particle for convenience.

2.2.2.4.18 Verbs (V)

Verbs are broadly defined as words expressing action, state, or being. More specifically they are defined as words that are found in the following syntactic construction:

$$N_{sp} + V + V_m$$

Verbs have attributes *m, f, k, b, c, ℓ, y, n, g, p, r, a, v, i, t, s, w,* and *j*. They do not have the attribute of definiteness (d). Attributes *m, f, k, b, y, i, t, s,* and *w* are independent variables that are specified external to the grammar. Attributes *c, ℓ, r, a,* and *v* are independent variables specified by the Hebrew dictionary. Attributes *n, g,* and *p* are dependent variables governed by the corresponding attributes of N_{sp} in the syntactic construction.

Verbs have only two tense inflection forms: the past tense and future tense. The present tense is expressed by the participle. All other tenses are expressed by the use of auxiliary words with one of the three above. For this terminal symbol, only two values of attribute *t* (tense) are assigned:

t=1 (past tense inflection)
t=2 (future tense inflection)

There are eight classes of verbs:

-Class 1: the Copulative Verb, HYH--*to be*

This verb is found in the following syntactic constructions:

$$N_{sp} + V_1 + N_p$$

$$N_{sp} + V_1 + A_p$$

For this class, attribute *r* is nonoperative (*r*=0)

The copulative (or its equivalent) is used to make the following statements:

(a) N_1
(b) $N_1 = N_2$
(c) $N_1 \subseteq N_2$
(d) $N_1 \varepsilon N_2$
(e) $A(N_1) = a_i$

which are interpreted as follows:

(a) N_1 exists
(b) N_1 is identical to N_2
(c) N_1 is a subset of N_2
(d) N_1 is an element of N_2
(e) Attribute A of N_1 is the value a_i

These statements are used in defining objects. They constitute an important group of deep structure "kernal" sentences, from which a variety of surface structures are derived.

-Class 2: Intransitive Verbs

These verbs take no direct object and are found in the following syntactic construction:

$$N_{sp} + V_2$$

Attribute *r* is nonoperative (*r*=0). This class contains the verbs that express state of action or being.

Examples:[22]

AKL----*to eat*
DYBR---*to speak*
HXBYR--*to grow pale*
XSB----*to think*
YSB----*to sit, to dwell*
YSN----*to sleep*
OMD----*to stand*
QBL----*to complain*
HAMYN--*to believe*

---

[22] Throughout the text the Hebrew words are listed in their third person, masculine, singular, past tense inflection, whereas the English equivalent is listed as the infinitive.

This class contains the reflexive transformation of Class 3 transitive verbs.

Examples:

HTLBS--*to dress (oneself)*
HTOKB--*to tarry*
HTQDM--*to advance (oneself)*
HTRX&--*to take a bath*

This transformation has the following derivation:

$$\begin{tikzcd} N_{sp} \arrow[d] & + & V_3 \arrow[d] & + & N_{op} \arrow[d] \\ N_{sp} \arrow[d] & + & V_3 \arrow[d] & + & \text{Self} \arrow[d] \\ N_{sp} & + & V_2 & & \text{(Refl.)} \end{tikzcd}$$

This class also contains the passive transformation of Class 3 transitive verbs.

Examples:

DWBR---*to be spoken*
HWLBS--*to be dressed*
HWPCQ--*to be stopped*
NWGN---*to be played (of music)*
NLQX---*to be taken*

This transformation has the following derivation:

$$\begin{tikzcd} N_{sp} & + & V_3 \arrow[d] & + & N_{op} \arrow[dllll] \\ N_{sp} & + & V_2\text{(Pass.)} & & \end{tikzcd}$$

In this transformation some of the deep structure information is lost, namely the identity of the original subject (N_{sp}).

-Class 3: Transitive Verbs.

These verbs take a direct object and are found in the following syntactic construction:

$$N_{sp} + V_3 + N_{op}$$

Attribute r is nonoperative (r=0).

Examples:

DYBR---*to speak (language, words, etc.)*
HBYN---*to understand (something)*
HLBYS--*to dress (person, thing)*
HPCYQ--*to stop (something)*
XYYG---*to dial (telephone, number)*
LBS----*to wear (clothes), to put on (clothes)*
LYWH---*to accompany (someone)*
LQX----*to take (something)*
NYGN---*to play (music)*
NCH----*to try (something)*
CYDR---*to arrange (something)*
OYKB---*to hinder (someone), to delay (something)*
QYBL---*to accept (things), to receive (things), to welcome (persons)*
STH----*to drink (something)*

This class also contains the causative transformation of intransitive Class 2 verbs.

Examples:

HAKYL--*to feed (someone)*
HOMYD--*to cause (someone) to stand*
HWSYB--*to cause (someone) to sit*

This transformation has the following derivation:

$$\begin{tikzcd} N_{sp} \arrow[drr] & + V_2 \arrow[d] & \\ N_{sp} & + V_3(\text{Cause}) & + N_{op} \end{tikzcd}$$

-Class 4: Indirect Object Verbs.

These verbs require both a direct and an indirect object to complete the sense. They are found in the following syntactic construction:

$$N_{sp} + V_4 + N_{op} + N_{ip}$$

$$N_{sp} + V_4 + Z + N_{op}$$

Attribute r is operative; it governs attribute r of N_{ip}. Examples of verbs governing N_{ip} with preposition L(r=1):

NTN----*to give (someone) (something)*
SYLM---*to pay (someone) (something)*
CYPR---*to tell (someone) (something)*
HRAH---*to show (someone) (something)*

Examples:

HKNYC--*to put (something) in (something)*
H&YO---*to offer (someone) (something)*
HGYD---*to tell (someone) (something)*
HSYB---*to return (someone) (something)*
HCBYR--*to explain (someone) (something)*
HBYA---*to bring (someone) (something)*
CYPQ---*to furnish (someone) (something)*
BYSL---*to cook (something) for (someone)*

Examples of verbs governing N_{ip} with preposition MN(r=5):

BYQS--*to ask (something) from (someone)*
QYBL--*to receive (something) from (someone)*

Example of verbs governing N_{ip} with preposition OM(r=8):

SYXQ--*to play (games) with (someone)*

This class also includes the causative transformation of Class 5 verbs.

Example:

HGYO (*1*) L (*2*)--*cause (1) to reach (2)*

This transformation has the following derivation:

$$\begin{tikzcd}
N_{sp} \arrow[drrrr] & + & V_5 \arrow[d] & + & N_{ip} \arrow[drr] & & \\
N_{sp} & + & V_4(\text{cause}) & + & N_{op} & + & N_{ip}
\end{tikzcd}$$

-Class 5: Prepositional Verbs.

These are transitive verbs that take a direct object with a preposition. The sense of the verb is determined by the preposition, but the preposition is not always translated[23] into English. This class is found in the following syntactic structure:

$$N_{sp} + V_5 + N_{ip}$$

Attribute *r* is operative and governs attribute *r* of N_{ip}.

---

[23] In some cases the preposition must be translated by a different preposition in English; for example: XYYK OL PLWNY--*he smiled at someone*, where the preposition OL -- *on* becomes *at* in English; these should be noted in the dictionary. Note also that a distinction should be made between intransitive verbs (Class 2) that are modified by adverbial prepositional phrases and transitive verbs (Class 5) that govern the object with a preposition. The distinction is that Class 5 verbs undergo the passive transformation whereas Class 2 verbs do not.

Examples of verbs governing the direct object with the preposition L (r=1):

HTLBS--*to dress (oneself) for (occasion)*
XYKH---*to wait for (something)*
@LPN---*to telephone (someone)*
&L&L---*to ring (someone) (on the phone)*
HAMYN--*to believe (something)*

Examples of verbs governing the direct object with the preposition B (r=2):

HBY@---*to look at (something)*
@YPL---*to treat (patient)*
SYXQ---*to play with (toys)*
ZLZL---*to belittle (someone)*
HSTMS--*to use (something)*
NYGN---*to play (musical instrument)*

Examples of verbs governing the direct object with the preposition MN (r=4,5):

AKL---*to eat (something)*
PXD---*to be afraid of (something)*
YRA---*to fear (someone)*
NRTO--*to recoil from (something)*
NCWG--*to retreat from (something)*

Examples of verbs governing the direct object with the preposition AL (r=6):

HTYYXC--*to refer to (something)*
XYYK----*to smile at (someone)*

Examples of verbs governing the direct object with the preposition (OL (r=7):

XSB----*to think about (something)*
HTGBR--*to overcome (someone)*
HCPYO--*to influence (someone)*
DYBR---*to talk about (something)*
HTOKB--*to dwell (enlarge) upon (something)*
QBL----*to complain about (something)*
H&@OR--*to regret (something)*
PYQD---*to command (someone)*
WYTR---*to give up (place)*
HXLY@--*to decide (question)*
NYGN---*to play (musical instrument)*

Examples of verbs governing the direct object with the preposition OM (r=8):

GWR----*to dwell with (someone)*

Example of verbs governing the direct object with the preposition LPNY (r=10):

YSB----*to study under (someone)*

Examples of verbs governing the direct object with the preposition AXRY (r=12):

RDP----*to pursue (someone)*
XYPC---*to seek (something)*

This Class also includes the passive transformation of itself (Class 5 verbs). This transformation is the distinction between Class 2 verbs that may be modified by an adverbial prepositional phrase and Class 5 verbs that govern an object with a preposition. Class 2 verbs do not undergo the passive transformation. The transformation has the following derivation:

$$\begin{tikzcd}
N_{sp} \arrow[drrrr] & + & V_5 \arrow[d] & + & N_{ip} \arrow[dllll] \\
N_{sp} & + & V_5(\text{pass}) & + & N_{ip}
\end{tikzcd}$$

This class also includes the passive transformation of Class 3 verbs.

Example:

DWBR---*to be spoken*
HWBN---*to be understood*
HWLBS--*to be dressed*
HWPCQ--*to be stopped*

This transformation has the following derivation:

$$\begin{tikzcd}
N_{sp} \arrow[drrrr] & + & V_3 \arrow[d] & + & N_{op} \arrow[dllll] \\
N_{sp} & + & V_5(\text{pass}) & + & N_{ip}
\end{tikzcd}$$

-Class 6: Purpose Verbs.

These verbs express purpose, ability, etc., and require an infinitive to complete the sense. They are found in the following syntactic construction:

$$N_{sp} + V_6 + N_v$$

The value of attribute subscript *r* must be 1 for both V and N_v.

Examples:

HSKYM---*to agree to* N_v
R&A-----*to want to* N_v
HCPYQ---*to manage to* N_v
YKWL----*to be able to* N_v

-Class 7: Discourse Verbs.

These verbs express the act of speaking, thinking, wishing, and the like. They are found in the syntactic construction:

$$N_{sp} + V_7 + S$$

Examples:

AMR---*to say S*
SAL---*to ask S*
BYQS--*to ask S*
XSB---*to think S*
ONH---*to answer S*

-Class 8: Double Accusative Verbs.

These verbs require two accusatives to complete the sense and are found in the following syntactic construction:

$$N_{sp} + V_8 + N_{op} + N_{op}$$

Attribute *r* is nonoperative (r=0).

Examples of verbs with one accusative of person and one of thing:

LYMD---*to teach (someone) (something)*
&YWH---*to enjoin (someone) (something)*
AYZR---*to gird (someone) with (something)*
OY@R---*to crown (someone) with (something)*

Examples of verbs with one accusative of thing and one of material:

XGR---*to wrap (something) with (something)*
&YPH--*to cover (something) with (something)*
@WX---*to plaster (something) with (something)*
O@R---*to encircle (something) with (something)*
ZRO---*to sow (something) with (something)*
OSH---*to make (something) of (something)*
Y&R---*to form (something) of (something)*
BNH---*to build (something) of (something)*
MYLA--*to fill (something) with (something)*

This class also includes the causative transformation of transitive Class 3 verbs.

Examples:

HRAH----*to show (someone) (something)*
HWDYO---*to cause (someone) to know (something) (Classical Hebrew only)*
HLBYS---*to cause (someone) to put on (clothes)*
HYCYR---*to cause (someone) to lack (something)*
HAKYL---*to feed (someone) (something)*
HSQH----*to cause (someone) to drink (something)*

This transformation has the following derivation:

$$\begin{tikzcd}
 & N_{sp} \arrow[dr] & +\,V_3 \arrow[dl] & +\,N_{op} \arrow[d] \\
N_{sp} & +\,V_8(\text{Cause}) & +\,N_{op} & +\,N_{op}
\end{tikzcd}$$

2.2.2.4.19 Infinitives Absolute (W)

Infinitives absolute are cognate adverbs formed by a special inflection of Hebrew verbs. They have attributes *m, c, ℓ, y, r, a, s, w* and *j*. Infinitives absolute have the unique syntactic construction

(a) V + W
(b) W + V

where attributes *s* and *w* are dependent variables governed by V, in which case they emphasize the certainty or endurance of the verbal action. They are also used as an alternate of the imperative mood of the verb.

There are eight classes of infinitives absolute that correspond exactly to the eight classes of verbs. Reference is made to the description of verbs for a definition of these classes. The infinitive absolute is not used in modern Hebrew.

2.2.2.4.20 Infinitives Construct (Y)[24]

Infinitives construct are verbal nouns formed by a special inflection of Hebrew verbs. They have attributes m, c, ℓ, y, r, a, s, w and j. The infinitive construct expresses the abstract concept of the deed of the verbal action of its root. It may govern a direct object like the active voice of the finite verb. The infinitive construct phrase may take the place of a noun in a sentence.

There are eight classes of infinitives construct that corresponds exactly to the eight classes of verbs. Reference is made to the description of verbs for a definition of these classes.

This completes the description of the terminal symbol.

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[24] See Section 2.2.2.4, footnote 10.

2.2.3 Replacement Rules (Ω)

The replacement rules consist of an unordered set of rules of the form

$$A = B + C \qquad \text{(i)}$$

which is read "replace $\underline{A}$ with $\underline{B + C}$". The symbol left of the equal sign is referred to as the left member of the rule (A above): and the symbol(s) right of the equal sign are referred to as the right member(s) of the rule (B and C above). The plus sign (+) indicates that the symbols are linked together in a sequential string. Given a sequential string of symbols, a replacement rule may operate on the string if the left member of the rule is identical to one of the symbols in the string. The rule operates on this symbol by replacing it with the right member(s) of the rule. For example, given the sequential string of symbols

$$A + D \qquad \text{(ii)}$$

the above rule (i) may operate on symbol $\underline{A}$ to produce the new string

$$B + C + D \qquad \text{(iii)}$$

The grammar continues to apply replacement rules until the string contains only terminal symbols.

Each nonterminal symbol of the grammar represents a phrase of the language. The rules define the content and structure of a given phrase in terms of its constituent terminal symbols and/or intermediate phrases in their proper sequential order. Usually the unique linguistic feature associated with each symbol may assume several values, in which case. an alternate version of the rule is given for each value. In the generalized grammar (see Part I), rules of this type are written in the form

$$A_c = \begin{Bmatrix} B + C \\ C + D \\ B + D \end{Bmatrix}^{c}$$

In this section the rules are written in the expanded form

$$A_1 = B + C$$

$$A_2 = C + D$$

$$A_3 + B + D$$

Each alternate version of the rule is usually defined and illustrated separately.

There are two types of rules in the grammar:

(1) rules on variable symbols, i.e., rules having a variable symbol (F) as left member;

(2) rules on fixed symbols, i.e., rules having an initial symbol or intermediate symbol as left member.

Since the grammar has complex constituents, the subscripts of the symbols enter into the computations. A rule in the grammar may operate on a symbol in a string under defined conditions. Each of the two types of rules has its own defined conditions for operating on a symbol.

2.2.3.1 Conditions for Operation of Rules on Variable Symbols

Replacement rules on variable symbols may operate on a symbol in a string under the following condition:

> Fixed attributes (numerical subscripts) of the left member of the rule must be the same as those of the symbol in the string.

If the left member of the rule meets this condition it operates on the symbol as follows:

(1) the variable symbol in the replacement rule is defined as the symbol of the string.

(2) the values of the dependent attributes of the replacement rule are defined by the value of the corresponding attribute of the symbol in the string, including zero and nine.

(3) the value of the independent attributes of each fixed non-compound symbol in right member of the rule are defined from input data.

(4) the symbol of the string is replaced by the right members of the rule.

For example; given the string

$$A_{(1413)} + D_{(112309)} \qquad \text{(iv)}$$

and the replacement rule

$$F_{(112c\ell y)} = F_{(110\ell y)} + C_{(1012)} + F_{(111c\ell y)} \qquad \text{(v)}$$

The rule meets the condition for operating on symbol D of the string, so the rule operates as follows:

(1) the variable symbol F is defined as D

(2) the values of dependent attributes are defined as

$$c = 3$$
$$\ell = 0$$
$$y = 9$$

(3) the value of the independent attribute y is defined by the input (say y = 0), and the rule is interpreted as

$$D_{(112309)} = D_{(110300)} + C_{(1012)} + D_{(111309)} \qquad \text{(vi)}$$

(4) the newly interpreted rule operates on symbol D of the string to produce the new string

$$A_{(1413)} + D_{(110300)} + C_{(1012)} + D_{(111309)} \qquad \text{(vii)}$$

Rule (v) is an example of a general compounding rule that can operate on a large variety of symbols.

2.2.3.2 Conditions for Operation of Rules on Fixed Symbols

Replacement rules on fixed symbols may operate on a symbol in a string under the following conditions:

(1) the left member symbol of the rule must be the same as the symbol of the string

(2) the fixed attributes (numerical subscripts) of the left member of the rule must be the same as those of the symbol of the string

(3) the left member of the rule must not have dependent attributes (alphabetic subscripts) that correspond to a nonoperative attribute, or to an undefined independent attribute of the symbol of the string (i.e., subscript ≠ 0, 9).

If the left member of a rule meets these conditions, it operates on the symbol of a string as follows:

(1) the values of the dependent attributes of the replacement rule are defined by the value of the corresponding attribute of the symbol in the string.

(2) the value of the independent attributes of each right member symbol of the rule are defined from input data.

(3) the right member symbols of the rule replace the symbol in the string.

For example, given string (iv) and rule

$$A_{(1fkc)} = B_{(1fkc)} + C_{(19kc)} \tag{viii}$$

The rule meets the conditions for operating on symbol A of the string, so the rule operates as follows:

(1) the values of dependent attributes are defined as

$$f = 4$$
$$k = 1$$
$$c = 3$$

(2) the value of the independent attribute of symbol C is defined by the input (say f = 2), and the rule is interpreted as

$$A_{(1413)} = B_{(1413)} + C_{(1213)} \tag{ix}$$

(3) the newly interpreted rule operates on symbol A of the string to produce the new string

$$B_{(1413)} + C_{(1213)} + D_{(112309)} \tag{x}$$

Rule (viii) illustrates the generative power of the grammar. The one rule covers all permutations of the values or subscripts $\underline{f}$, $\underline{k}$, and $\underline{c}$.

2.2.3.3 Rules on Variable Symbols

Rules on variable symbols have a variable symbol (F) as left member. They are used to express general syntactic constructions that are common to many symbols in the grammar. One rule on F replaces many structually identical rules on other symbols that would be required otherwise. There are three sets of rules on variable symbols:

(1) Mandatory-Optional Rules

(2) Negation Rules

(3) Compounding Rules

2.2.3.3.1 Mandatory-Optional Rules

All symbols in the grammar have the mandatory/optional attribute (m) which is always a fixed value of 9 (optional) or 1 (mandatory). Optional symbols may be omitted or made mandatory under control of input data. The following rule enables the grammar to make this choice.

$$F(0fkbc\ell ydngpravitsw) = * \qquad (1.1)$$

where * signifies deletion of the symbol from the string. This is the only rule of the grammar that operates on nonmandatory symbols (i.e., $m \neq 1$); all other rules have mandatory left members.

2.2.3.3.2 Negation Rules

Many symbols in the grammar have the negative/positive attribute *y*. Negative symbols ($y = 1$) are negated by preceding the symbol with the proper negative. The following rule performs this operation:

$$F_{(1f0bc\ell 1dngpravitsw)} = L_{(10001\ell)} + F_{(1f0bc\ell 0dngpravitsw)} \qquad (2.1)$$

This is the only rule in the grammar with a negative symbol as left member, thus it must operate on all negative symbols in a string. The class of the negative L is defined by the value of dependent attribute ℓ. Note that this rule only operates on noncompounded symbols ($k = 0$). For examples, see Figure 2.4 and sentence 23.[25]

2.2.3.3.3 Compounding Rules

Certain symbols in the grammar rules may be compounded after specified patterns. The compounding of a symbol is governed by the values of attribute subscripts *f*, *k* and *b*. Attribute *f* specifies the compound pattern applicable to the symbol and its value is fixed in all grammar rules. Attribute *k* specifies the number of times a symbol is compounded and its value is defined by input data. Attribute *b* specifies the connective pattern applicable to the symbol, and its value is specified by input data.

---

[25] Sentences used for examples are all contained in Section 2.3.1.

Compounding rules are the only rules of the grammar that will operate on compound symbols, i.e., symbols with $k \neq 0$. The only exception is the optional-mandatory rule (1.1). There are four compounding patterns in Hebrew. These are defined in the next sections.

Compounding Pattern 1

Many syntactic constituents of Hebrew require agreement of their attributes when they are compounded. Usually they are compounded after the following pattern:

F and F

F or F

either F or R

neither F nor F

F, F, ... F and F

F, F, ... F or F

either F, F, ... F or F

neither F, F, ... F nor F

The following rules govern this pattern:

$$F_{(1121c\ell ydngpravitsw)} = F_{(1000c\ell ydngpravitsw)} + C_{(10001)} + F_{(1000c\ell ydngpravitsw)} \tag{3.1}$$

$$F_{(1122c\ell ydngpravitsw)} = F_{(1000c\ell ydngpravitsw)} + C_{(10002)} + F_{(1000c\ell ydngpravitsw)} \tag{3.2}$$

$$F_{(11kbc\ell ydngpravitsw)} = F_{(1000c\ell ydngpravitsw)} + T_{(10003)} + F_{(11,k-1,bc\ell ydnpravitsw)},\ k>2, b\leq 2 \tag{3.3}$$

$$F_{(11k3c\ell ydngpravitsw)} = C_{(10002)} + F_{(11k2\ell ydngpravitsw)} \tag{3.4}$$

$$F_{(11k4c\ell ydngpravitsw)} = F_{(11k1c11dngpravitsw)} \tag{3.5}$$

For examples see Figure 2.2, Sentences 6,9,10,11,12.

Compounding Pattern 2

A subject phrase of a sentence may consist of a single noun phrase (or its equivalent) or a string of noun phrases. The subject phrase must agree with its associated verb phrase in number, gender, and person. However, if the subject phrase consists of a string of noun phrases (or their equivalents), interesting permutations may occur. For instance, if the number attribute of the subject phrase is singular it may consist of one noun phrase of singular number, or it may consist of a string of singulars joined by "or", such as:

(1) singular
(2) singular or singular
(3) singular, singular, ... or singular

If the subject phrase is plural, it may consist of one plural noun phrase, a string of plural or singular noun phrases joined by "and," or a string of plural noun phrases joined by "or," such as:

(1) plural
(2) plural/singular and plural/singular
(3) plural/singular, plural/singular,...and plural/singular
(4) plural or plural
(5) plural, plural,...or plural

If the subject phrase has the first person attribute, it may consist of one first person pronoun, or a string of noun phrases (or equivalent) joined by "and" or "or," only one of which is a first person pronoun. The others may be of second or third person. Example:

We, you and the children

If the subject phrase has the second person attribute it may consist of a single second person pronoun, or a string of noun phrases (or equivalent) joined by "and" or "or," at least one of which is a second person pronoun. The others may be second or third person, but not first person. Example:

you, the women and the children

If the subject phrase has the third person attribute it may consist of a single third person noun phrase (or equivalent) or a string of noun phrases of third person only. Example:

they, the women, the children and the furniture

If the subject phrase has the feminine gender, it may consist of a single feminine noun phrase (or equivalent) or a string of feminine noun phrases.

If the subject phrase has the masculine gender, it may consist of a single masculine noun phrase (or equivalent) or a string of noun phrases of masculine gender or of mixed gender. The following rules govern this pattern:

$$F_{(1221c\ell ydn_o g_o p_o ravitsw)} = F_{(1000c\ell ydn_1 g_1 p_1 ravitsw)} + C_{(10001)} + F_{(1000c\ell ydn_2 g_2 p_2 ravitsw)} \quad (3.6)$$

$$F_{(1222c\ell ydn_o g_o p_o ravitsw)} = F_{(1000c\ell ydn_1 g_1 p_1 ravitsw)} + C_{(10002)} + F_{(1000c\ell ydn_2 g_2 p_2 ravitsw)} \quad (3.7)$$

$$F_{(12kbc\ell ydn_o g_o p_o ravitsw)} = F_{(1000c\ell ydn_1 g_1 p_1 ravitsw)} + T_{(10003)} + F_{(12,k-1,bc\ell ydn_2 g_2 p_2 ravitsw)},\ k>2,\ b\leq 2 \quad (3.8)$$

$$F_{(12k3c\ell ydn_o g_o p_o ravitsw)} = C_{(10002)} + F_{(12k2c\ell ydn_o g_o p_o ravitsw)} \quad (3.9)$$

$$F_{(12k4c\ell ydn_o g_o p_o ravitsw)} = F_{(12k1c11dn_o g_o p_o ravitsw)} \quad (3.10)$$

These rules are of the same form as those for compounding class 1 except for the following constraints:

(1) for the attribute of number:[26]

  (a) if $b = 1$; then $n_o > 1$

  (b) if ($b = 2$, and $n_o = 1$); then $n_1 = n_2 = 1$

  (c) if ($b = 2$, and $n_o > 1$); then $n_1 > 1$, or $n_2 > 1$, or both

(2) for the attribute of gender:

  (a) if $g_o = 1$; then $g_1 = 1$, or $g_2 = 1$, or both

---

[26] In these statements, "b" refers to subscript b of the left hand element of the given rule.

(b) if $g_o = 2$; then $g_1 = g_2 = 2$

(3) for the attribute of person:

(a) if $p_o = 1$; then $p_1 = 1$, or $p_2 = 1$

(b) if $p_o = 2$; then ($p_1 \neq 1$, and $p_2 \neq 1$), and ($p_1=2$, or $p_2=2$, or both)

(c) if $p_o = 3$; then $p_1=p_2=3$

For examples see sentence A (symbol NAP1).

Compounding Pattern 3

There are syntactic units that require agreement of the attributes when compounded in a given context. They are separated by commas but are not connected by conjunctions. This is true of noun phrases in apposition. The rules for this pattern are:

$$F_{(13kbc\ell ydngpravitsw)} = F_{(1000bc\ell ydngpravitsw)} + T_{(10003)} + F_{(13,k-1,bc\ell ydngpravitsw)}, \quad k>2 \tag{3.11}$$

$$F_{(132bc\ell ydngpravitsw)} = F_{(1000c\ell ydngpravitsw)} + T_{(10003)} + F_{(1000c\ell ydngpravitsw)} \tag{3.12}$$

Rule (3.11) operates only when k is greater than 2.

Compounding Pattern 4

There are syntactic units which require agreement and which are not separated by commas nor joined by conjunction when compounded. These are the construct nouns, construct participles, and adverbs. The rules are:

$$F_{(14kbc\ell ydngpravitsw)} = F_{(1000kc\ell ydngpravitsw)} + F_{(14,k-1,bc\ell ydngpravitsw)}, \quad k>2 \tag{3.13}$$

$$F_{(142bc\ell ydngpravitsw)} = F_{(1000kc\ell ydngpravitsw)} + F_{(1000kc\ell ydngpravitsw)} \qquad (3.14)$$

Rule (3.13) operates when k is greater than 2. This completes the rules on variable symbols. For examples see sentence 1 and 3.

2.2.3.4 Rules on Terminal Symbols

By definition terminal symbols are those for which there are no replacement rules. A string of terminal symbols produced by the grammar represents the words of a sentence in the grammar, with each word in correct syntactic order and completely described grammatically.

A string of terminal symbols serves as the input data to the word generating grammar which operates on the symbols to produce the correct orthography of the sentence.

2.2.3.5 Rules on Intermediate Symbols

The rules on intermediate symbols constitute the greatest number of rules of the grammar. They are presented so as to define the basic constituents first. An attempt is made to arrange the rules so that all symbols in a given rule are previously defined. Occasionally this is not possible, but in these cases reference is made to the subsequent section in which the symbol is defined. The rules on intermediate symbols are presented in the sections that follow.[27]

2.2.3.5.1 Prepositional-Pronoun Phrase (Z)

The prepositional-pronoun phrase consists of a preposition (P) and an objective pronoun (R). For example: the preposition ALY(to) with the pronominal suffix KM (you) forms the compound word ALYKM--*to you*. There is only one class of this symbol. The rule is:

$$Z_{(100010y0ngpr)} = P_{(100011y0000r)} + R_{(10003000ngp)} \qquad (4.1)$$

The preposition (P) cannot be compounded and it takes a Class 1 negative (LWA). The pronominal suffix cannot be compounded or negated; its attributes of number, gender, and person are dependent variables. See Figure 2.1 for illustrations of the structure of this phrase.

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[27] It is assumed, without being explicitly stated in the rules, that the root letters of the terminal symbols are independent variable, unless stated otherwise.

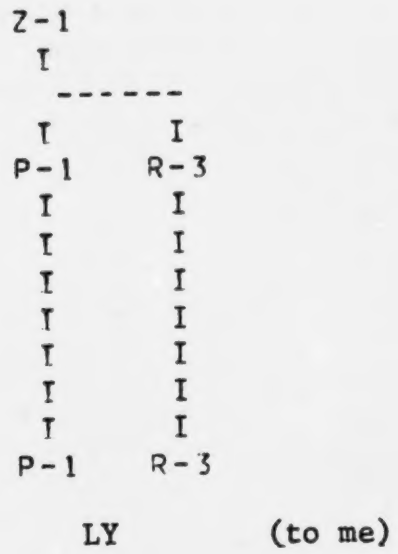
Z-1
P-1
R-3
P-1
R-3
LY
(to me)

Figure 2.1(A)

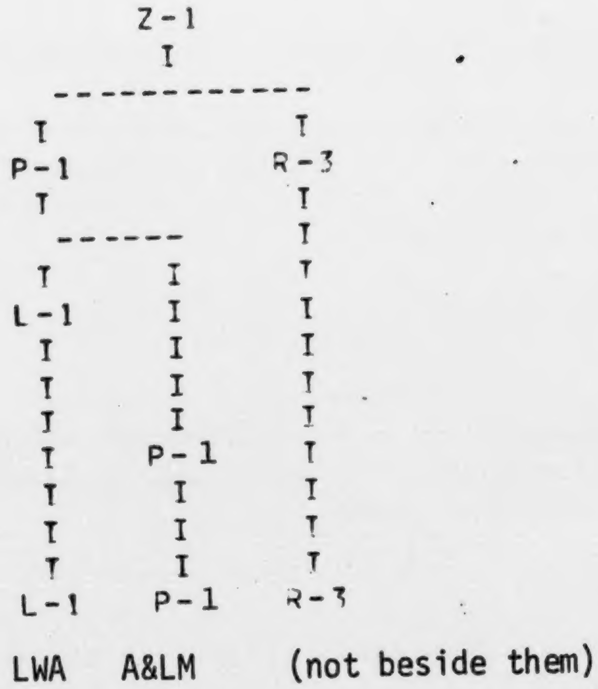
Z-1
P-1
R-3
L-1
P-1
L-1
P-1
R-3
LWA
A&LM
(not beside them)

Figure 2.1(B): Structure of Preposition-Pronoun Phrase

2.2.3.5.2 Objective-Interrogative Verb Phrase (V_{qo})

The objective interrogative verb phrase is used as the predicate of an objective-interrogative phrase (see Section 2.2.3.5.7). This set of rules provides the proper transformation to remove the direct object from the predicate of the interrogative sentence (see Section 2.2.3.5.71).

The rules are:

$$V_{qo(100010y0ngpr3vit)} = V_{p(100010y0ngpr2vit)} \tag{5.1}$$

$$V_{qo(100010y0ngpr4vit)} = V_{p(100010y0ngpr5vit)} \tag{5.2}$$

$$V_{qo(100010y0ngpr8vit)} = V_{p(100010y0ngpr3vit)} \tag{5.3}$$

2.2.3.5.3 The Basic Post-Nominal Adjective Phrase (A_{pa})

The basic adjective phrase usually expresses qualitative[28] or indefinite quantitative[29] attributes of nouns or their equivalent. It has attributes y, d, n, and g, and has three classes. Class 1 expresses the noncomparative degree and consists of an adjective and an optional adverb modifier.[30] See Figures 2.2A and 2.4 for illustrations of the structure, also sentences 4, 7 and 8.

The rule is:

$$A_{pa(100010ydng)} = A_{(100011ydng)} + D_{(9490400)} \tag{6.1}$$

The adjective (A) is the name of some value on the scale of a semantic dimension. It usually represents a range of values, which can be narrowed down by the use of the optional adverb (D). This may be illustrated as follows:

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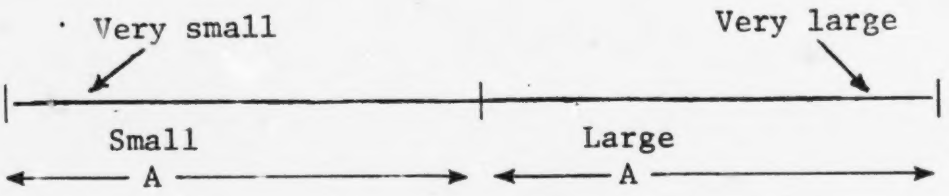
[28] The basic post-nominal adjective phrase should also include definite quantitative attributes, including either cardinal or ordinal number. These will be included later.

[29] See also Section 2.2.3.5.6 for a discussion of the indefinite article and use of AXD

[30] The modifiers of adjectives other than Class 4 adverbs must be included in these rules.



Semantic Scale "Size"

Class 2 expresses the comparative degree and consists of an adjective, the preposition M/MN--from, followed by the thing being compared. See Figure 2.3 and Sentence 2 for illustrations of the structure.

Example: DWD *GDWL MN SAWL* -- *David is greater than Saul*

The rule is:

$$A_{pa(100020ydng)} = A_{(100010ylng)} + X_{p(119990000009)} \qquad (6.2)$$

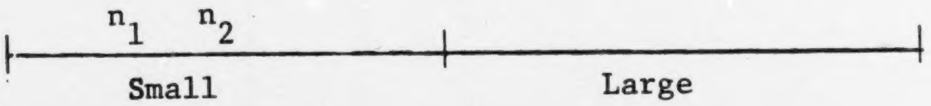
$$r = 4,5$$

The constituent (X_p) is a prepositional phrase that is introduced by the preposition M or MN, and is described in Section 2.2.3.5.38; the object of the preposition is a noun or equivalent.

This class is used to compare nouns with respect to their values on the scale of some common semantic dimension. This may be expressed as

$$A(n_1) \leftrightarrow A(n_2)$$

and it may be illustrated as follows:



Semantic Scale "Size"

Class 3 expresses the superlative degree and consists of an adjective, the preposition B -- *in*, followed by the thing being compared.

Example: DWD *HGDWL BYSRAL* -- *David is the greatest in Israel*

The rule is:

$$A_{c(100020y2ng)} = A_{(100011y2ng)} + X_{p(119990000002)} \qquad (6.3)$$

```
APA1
  I
   -------
  I     I
 A-1   D-6
  I     I
  I     I
  I     I
  I     I
  I     I
  I     I
  I     I
 A-1   D-6

 @WBWT MAWD
```

THE PHRASE--"very good (fem. pl.)"

(A)

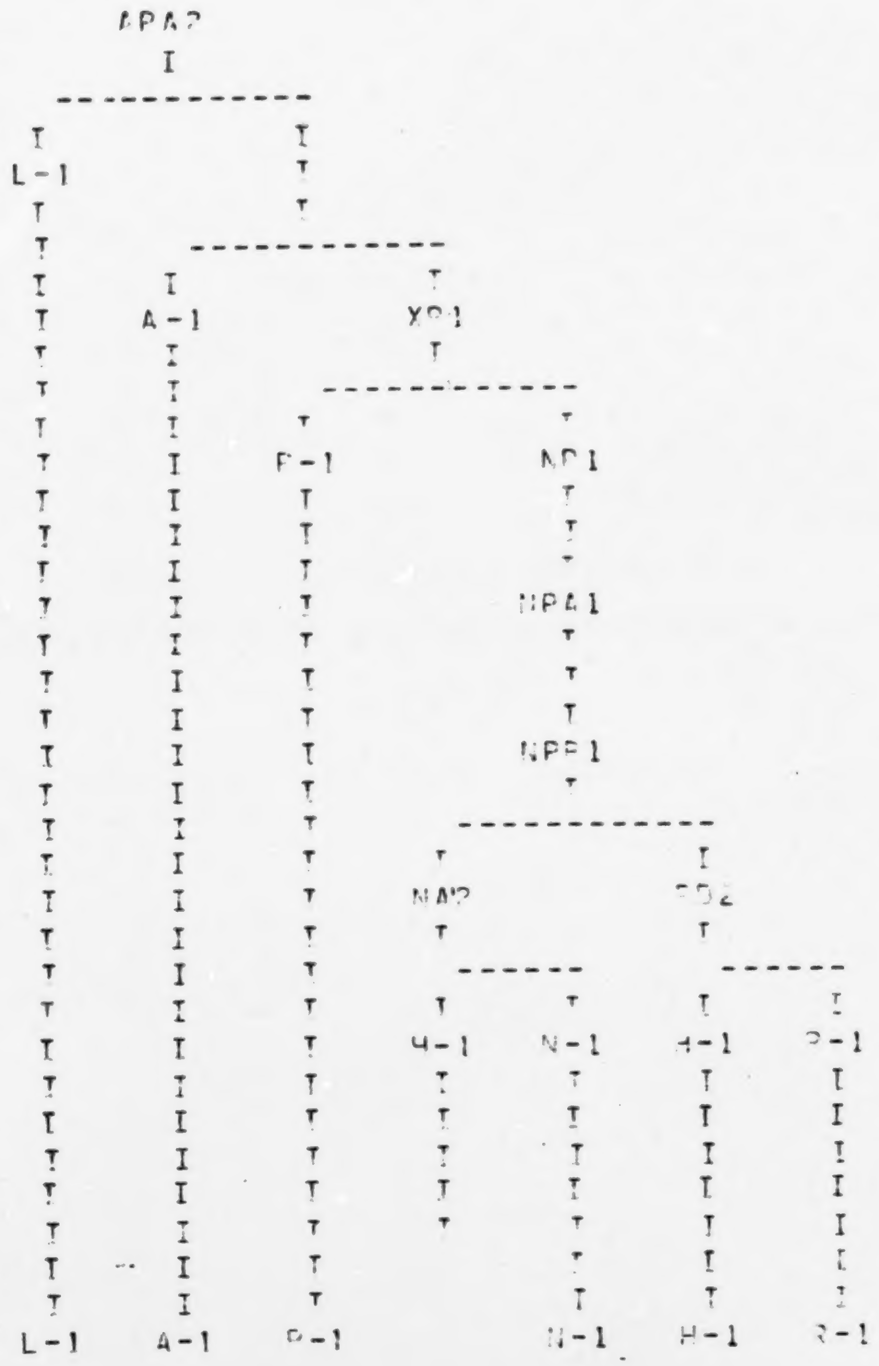
```
      APA3
        I
  ------------
 I           I
A-1         XP2
 I           I
  ------     I
 I     I     I
H-1    I    Z-1
 I     I     I
 I     I      ------
 I     I     I     I
 I     I    P-1   R-3
 I     I     I     I
 I     I     I     I
 I     I     I     I
 I     I     I     I
 I     I     I     I
 I     I     I     I
 I     I     I     I
H-1   A-1   P-1   R-3

  HG@NWT BHN
```

THE PHRASE--"the smallest (ones) of them"

(B)

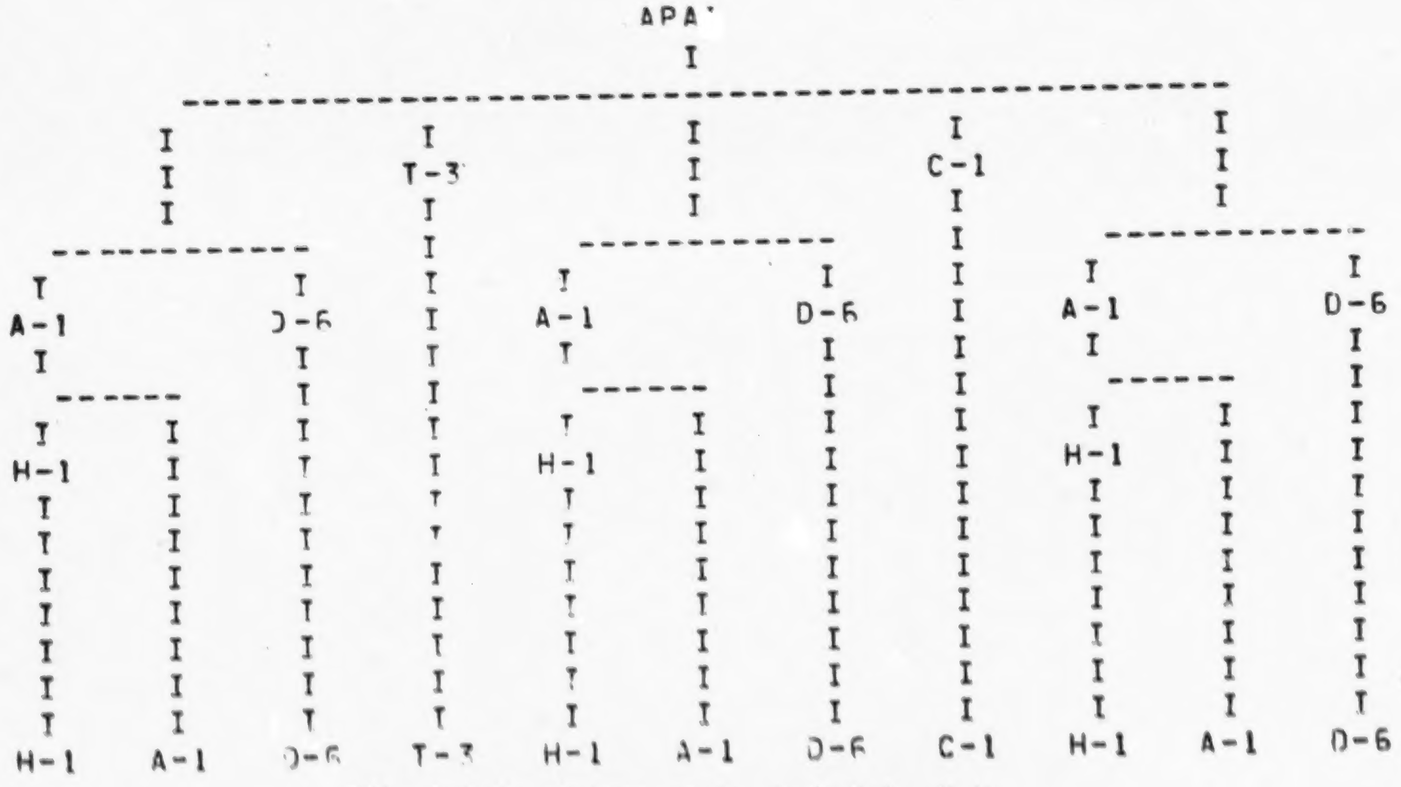
Figure 2.2. Structure of Adjective Phrase (A_{pa})


APA2
L-1
A-1
XP1
P-1
NP1
NPA1
NPP1
NA2
PD2
H-1
N-1
H-1
P-1
L-1
A-1
P-1
N-1
H-1
P-1

LWA GDWLH MYHYLDH HZWT

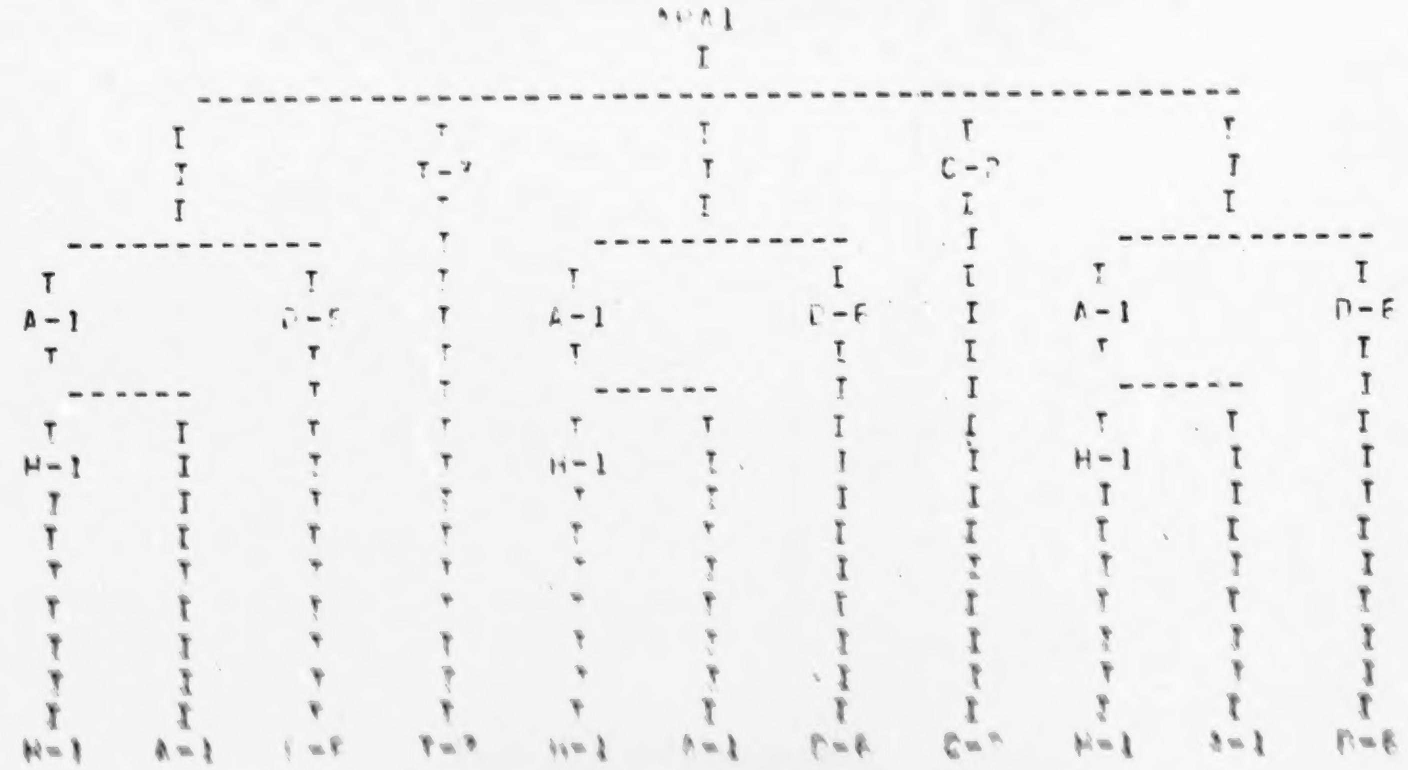
THE PHRASE--"NOT LARGER THAN THOSE GIRLS"

Figure 2.3. Structure of A_{pa} class 2


APA1
A-1
D-6
T-3
A-1
D-6
C-1
A-1
D-6
H-1
H-1
H-1
H-1
A-1
D-6
T-3
H-1
A-1
D-6
C-1
H-1
A-1
D-6

HYPWT MAWD, HGDWLWT MAWD WHQ@NWT MAWD

(A) THE PHRASE--"the very nice, the very large and the very small (fem. pl.)"


APA1
A-1
D-6
T-3
A-1
D-6
C-2
A-1
D-6
H-1
H-1
H-1
H-1
A-1
D-6
T-3
H-1
A-1
D-6
C-2
H-1
A-1
D-6

HYPWT MAWD, HGDWLWT MAWD AW HQ@NWT MAWD

(B) THE PHRASE--"The very nice, the very large or the very small (fem. pl.)"

Figure 2.4: Structure of A_{pa} Class 1

The constituent (X_p) is a prepositional phrase that is introduced by the preposition B, and is described in Section 2.2.3.5.38. See Figure 2.2B and Sentence 1 for illustrations of the structure.

This class is used to compare a noun with a whole class of nouns with respect to their vlaues on the scale of some common semantic dimension. This may be expressed as

$$N = \{n_1, n_2, \ldots n_j \ldots n_J\}$$

$$A(n_j) \leftrightarrow A(N)$$

2.2.3.5.4 The Post-Nominal Adjective Phrase (A_p)

Adjectives do not have a dual inflection. The post-nominal adjective phrase corrects for this by converting any required dual phrase into the plural. This permits a plural adjective phrase to modify a dual noun according to actual practice. See sentences 1, 2, 4 and 7 for illustrations of the structure of this phrase.

Example: OYNYYM @WBYM -- *good eyes*

The rules for this correction are:

$$A_{p(100010ydng)} = A_{pa(100090ydng)}, \quad n \neq 2 \tag{7.1}$$

$$A_{p(1000106d2g)} = A_{pa(100090yd3g)} \tag{7.2}$$

2.2.3.5.5 The Adjectival Possessive Phrase (A_s)

A noun may be modified by an adjectival possessive phrase to describe ownership. The adjectival possessive phrase is introduced by the possessive particle SL. There are tow classes of this symbol. For Class 1, the possessor is a pronoun. See Sentences A and 23 for illustrations of the structure of this phrase.

Example: BYYT *SLW* -- *his house*

The rule is:

$$A_{s(10001000)} = U_{(10001000)} + R_{(10003000999)} \tag{8.1}$$

The prenominal suffix may not be compounded, and its attributes of number, gender, and person are indpendent variables.

For Class 2, the possessor is a noun or equivalent.

Example: HBYYT *SL HYLD HTWB* -- *the good boy's house*

The rules is:

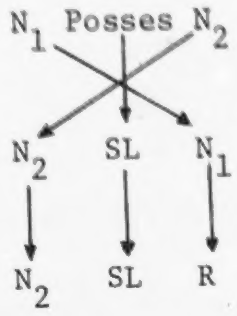
$$A_{s(10002000)} = U_{(10001000)} + N_{p(10001009999)} \qquad (8.2)$$

For the noun phrase (N_p), the attributes of number, gender, person, and definiteness are indpendent variables. The noun phrase is not compounded since it is expected that the possessive particle (SL) will be repeated before each member of a compound possessive.

Example: HBYYT *SL HYLD WSL HYLDH* -- *the house of the boy and girl*

It is not expected that this phrase is negated. The negative is expressed by other means. The noun phrase (N_p) is defined in Section 2.2.3.5.26

The deep structure derivation of this constituent is as follows:



(Class 2)

(Class 1)

2.2.3.5.6 The Basic Noun Phrase (N_a)

The basic noun phrase serves as the nucleus of the simple noun phrase. There are three classes of this symbol: (1) the indefinite noun phrase, (2) the definite noun phrase, and (3) the proper noun phrase.

The indefinite noun phrase consists of an absolute state noun (N) only. See Sentences 1, 4, 5 and 7 for illustrations. The structure is:

$$N_{a(100010ydngp)} = N_{(10001160ngp)}, \quad d \neq 2 \qquad (9.1)$$

$$N_{a(100010y1ngp)} = N_{(100011y0ngp)} + B_{(10001000ng)} \qquad (9.2)$$

Rule (9.2) states that an indefinite noun may be expressed by a noun followed by the number one.[31]

Example: AYS AXD -- *a man;* ANSYM AXDYM -- *some men*

The definite noun phrase consists of the definite article (H) and an absolute state noun (N). The structure is:

$$N_{a(100020y2ngp)} = H_{(100011y)} + N_{(10001000ngp)} \tag{9.3}$$

The phrase contains Class 1 nouns only i.e., no proper nouns. Note that the definite article carries the negation for the phrase.

Proper nouns are definite with no written definite article. The structure of the proper noun phrase is:

$$N_{a(100030y2ngp)} = N_{(149991y0ngp)} \qquad c \neq 1 \tag{9.4}$$

Provision is made for a string of proper nouns compounded after Pattern 4. See Sentences A,1,2,3.6,7,8, and others for illustrations of this phrase.

The deep structure derivation of this constituent is as follows:

Given: $N = \{n_1, n_2, \ldots n_j \ldots n_J\}$

where 1, 2, ...j...J are proper names of the elements.

$$\left.\begin{array}{l} \text{(a)}\quad N_a = N\text{(collectively)},\ d=0,\ n=1,\ c=1 \\ \left.\begin{array}{l} \text{(b)}\quad N_a \in N,\ d=0,\ n=1,\ c=1 \\ \text{(c)}\quad N_a \subseteq N,\ d=0,\ n>1,\ c=1 \end{array}\right\}\ \text{Rule 9.2} \end{array}\right\}\ \text{Rule 9.1}$$

$$\left.\begin{array}{l} \text{(d)}\quad N_a = N_j,\ d=2,\ n=1,\ c=1 \\ \text{(e)}\quad N_a = N_b \subseteq N,\ d=2,\ n>1,\ c=1 \end{array}\right\}\ \text{Rule 9.3}$$

$$\text{(f)}\quad N_a = j,\ d=2,\ n=1,\ c>1 \qquad \text{Rule 9.4}$$

---

[31] See Ornan, *The Nominal Phrase in Modern Hebrew*, Chapter 2 on articles. He discusses the use of AXD as an indefinite article. He also includes 'kamma' -- *some* with "exad" as an indefinite article. However, its prenominal position seems to make it a member of the qualifier phrase along with "all," "every", some," etc., which must be added to the grammar.

Where these statements are interpreted as follows:

(a) N_a is Class N collectively.

(b) N_a is an unnamed element of N.

(c) N_a is an unnamed subclass of N.

(d) N_a is a previously referenced element of N.

(e) N_a is a previously referenced subclass of N.

(f) N_a is the element of N whose name is *j*.

2.2.3.5.7 Objective-Interogative Phrase (S_{qo})

The objective-interogative phrase is the predicate of an objective-pronoun interogative clause in which the direct object of the verbal is questioned (see Section 2.2.3.5.71). The phrase has two classes. In Class 1 the subject of the verbal is not named; in Class 2 the subject is named. The rules are:

$$S_{qo(100010y0ngpr)} = V_{qo(119910y0ngpr9999)} \tag{10.1}$$

$$S_{qo(100020y0ngpr)} = N_{sp(12999099ngp)} \tag{10.2}$$

$$+ V_{qo(119910y0ngpr9999)}$$

See Sentence 6A for an illustration of the structure of this phrase.

2.2.3.5.8 The Genitive-Pronoun Phrase (N_s)

A noun may be modified by a possessive pronoun as follows: the noun must be in the construct state (J) with an attached pronomin suffix.

Example: CPRW -- *his book*

The attached pronoun may also express other genitive relations.

Example: MWTW -- *his death*

See Sentence 23A for an illustration of this phrase.

There is one class of this symbol. The rule is:

$$N_{s(100010y2ngp)} = J_{(100011y0ngp)} + R_{(10003000999)} \qquad (11.1)$$

The noun may not be compounded and its attributes of number, gender, and person are dependent variables. The pronoun may not be compounded and its attributes of number, gender, and person are independent variables.

The deep structure derivation of this constituent is as follows:

V_g = Subject governs object by genitive relationship.

$$\begin{tikzcd}
N_1 \arrow[drrr] & + \underbrace{V_g + N_2} \arrow[d] & & \\
& J_2 \arrow[d] & + & N_1 \arrow[d] \\
& J_2 & + & R
\end{tikzcd}$$

See Section 2.2.3.5.5 for a special alternate derivation for the relationship of posession, and see Section 2.2.3.5.23 for a discussion of the more general case.

2.2.3.5.9 The Basic Demonstrative Pronoun Phrase (R_d)

The basic demonstrative pronoun phrase consists of an definite demonstrative pronoun, a definite demonstrative pronoun, or a definite personal pronoun. There are three classes of this symbol: (1) the indefinite basic demonstrative pronoun phrase, (2) the definite basic demonstrative pronoun phrase, and (3) the emphatic definite basic demonstrative pronoun phrase.

The indefinite basic demonstrative pronoun phrase is used in place of a noun where the noun is to be distinguished from others of the same class.

Example: *ZH* HYLD -- *this is the boy*

The rule is:

$$R_{d(100010ydngp)} = R_{(100011y0ng3)} \qquad (12.1)$$

The definite basic demonstrative pronoun phrase may modify a definite noun,[32] in which case the demonstrative points to objects near in space, time, or thought. It is equivalent to the English *this*. See Sentences 8,9, and 12 for illustrations of this phrase.

Example: HYLD *HZH* -- *this boy*

The rule is:

$$R_{d(100020y2ng3)} = H_{(100011y)} + R_{(1000100ng3)} \qquad (12.2)$$

In addition to the demonstrative pronoun, the definite personal pronoun may serve as a definite demonstrative pronoun phrase, in which case it points to objects remote in space, time or thought. It is equivalent to the English *that*.

Example: HYLD *HHWA* -- *that boy*

The rule is;

$$R_{d(100030y2ng3)} = H_{(100011y)} + R_{(1000200ng3)} \qquad (12.3)$$

These phrases are limited to third person contexts. The symbols may not be compounded.

---

[32] The alternate construction YLD ZH -- *this boy*, is not included in the grammar as yet.

The deep structure derivation of this constituent is as follows:

Given: $N = \{n_1, n_2, \ldots n_j \ldots n_J\}$

n_1 is near
n_J is far

$$N \rightarrow R_d = \{n_1, n_2, \ldots \overset{\downarrow}{n}_j \ldots n_J\} \qquad \text{(Rule 12.1)}$$

$$N + R_d = \{\overset{\downarrow}{n}_1, n_2, \ldots n_j \ldots n_J\} \qquad \text{(Rule 12.2)}$$

$$N + R_d = \{n_1, n_2, \ldots n_j \ldots \overset{\downarrow}{n}_J\} \qquad \text{(Rule 12.3)}$$

2.2.3.5.10 Direct Object Pronoun Phrase (R_o)

The direct object pronoun phrase consists of the sign of the direct object (O) and a pronominal suffix. The direct object pronoun serves as the direct object of a verb. It is listed separate from the direct object noun phrase (N_o) since it occupies different structural positions in verb phrases. See Sentences 10 and 12 for illustrations of this phrase.

There is one class of this symbol. The rule is:

$$R_{o(100010y2ngp)} = O_{(100011y)} + R_{(10003000ngp)} \qquad (13.1)$$

2.2.3.5.11 The Units Number Phrase (B_{aa})

Reference should be made to the section describing terminal symbol B which contains initial remarks on numbers.

Units number phrases contain number 1 through 9 and consist of one singular declension of Number Classes 1,2, or 3. Reviewing the content of these number classes,

$B_{(1)} = 1$

$B_{(2)} = 2$

$B_{(3)} = 3, 4, 5, 6, 7, 8, 9$

There are three classes of this symbol. Class 1 consists of the number 1. Class 2 consists of the number 2. Class 3 contains the numbers three through nine. The rules are:

$$B_{aa(100010001g)} = B_{(100010001g)} \qquad (14.1)$$

$$B_{aa(100020002g)} = B_{(100020002g)} \qquad (14.2)$$

$$B_{aa(1000300031)} = B_{(1000300012)} \qquad (14.3)$$

$$B_{aa(1000300032)} = B_{(1000300011)} \qquad (14.4)$$

Compounding is not permitted. The numbers (B) are required in the singular declension, except 2 which takes the dual (SNYYM/STYYM). Agreement is required for gender for numbers 1 and 2, but numbers 3-9 have opposite gender agreement. That is, a true masculine context requires these numbers in feminine declension, and the true feminine context requires the masculine declension. Rules (16.3) and (16.4) correct for this requirement.

2.2.3.5.12 The Tens Number Phrase (B_{ab})

Tens number phrases consist of the number 10. For structural reasons, this number is handled as a separate symbol. In the singular form the word means 10, and in the plural form the word means 20. Only the singular form (10) is included here. The rules are:

$$B_{ab(1000100031)} = B_{(1000400012)} \qquad (15.1)$$

$$B_{ab(1000100032)} = B_{(1000400011)} \qquad (15.2)$$

Note that the feminine declension appears in a masculine context and the masculine appears in a feminine context. These rules compensate for this condition. No compounding is permitted.

2.2.3.5.13 The Teens Number Phrase (B_{ac})

Teens Number Phrases consist of the number 11 through 19, which numbers have a peculiar construction. They are composed of singular constituents from Number Classes 1, 2, 3, and 4. Reviewing the content of these number classes.

$$B_{(1)} = 1$$

$$B_{(2)} = 2$$

$$B_{(3)} = 3,4,5,6,7,8,9$$

$$B_{(4)} = 10$$

There are three classes of this symbol. Class 1 contains the number 11. The rule is:

$$B_{ac(100010003g)} = B_{(100010001g)} + B_{(100040001g)} \tag{16.1}$$

Example: AKD OSR--*eleven (masc.)*
AKT OSRYH--*eleven (fem.)*

Class 2 contains the number 12. The rules are :

$$B_{ac(100020003g)} = B_{(100020003g)} + B_{(100040001g)} \tag{16.2}$$

$$B_{ac(100020003g)} = I_{(100020003g)} + B_{(100040001g)} \tag{16.3}$$

Example: SNYM OSR--*twelve (masc)*
STYM OSRH--*twelve (fem.)*

Note that SNYM/STYM is interpreted as plural rather than dual and it may be either absolute or construct.

Class 3 contains the number 13 through 19. The rules are:

$$B_{ac(1000300031)} = B_{(1000300012)} + B_{(1000400011)} \tag{16.4}$$

$$B_{ac(1000300032)} = B_{(1000300011)} + B_{(1000400012)} \tag{16.5}$$

Here again the constituents 3-9 take the gender declension opposite to the context, but the special word from 10 agrees with the gender of the context.

Example: SLWSH OSR--*thirteen (masc.)*
XMS OSRYH--*fifteen (fem.)*

2.2.3.5.14 Multi-tens Number Phrases (B_{ad})

Multiples of ten are expressed as follows:

ten (pl.) = twenty
three (pl.) = thirty
four (pl.) = forty
nine (pl.) = ninety

These numbers have the masculine declension only but appear in contexts of either gender: they are ambiguous in the gender attribute.

There are two classes of this symbol. Class 1 contains the number 20. The rule is:

$$B_{ad}(100010003g) = B(1000400031) \tag{17.1}$$

Example: OSRYM--*twenty (masc./ fem.)*

Class 2 contains the numbers 30, 40, 50, 60, 70, 80, and 90. The rule is:

$$B_{ad}(100020003g) = B(1000300031) \tag{17.2}$$

Example: ARBOYM--*forty (masc./fem.)*

2.2.3.5.15 Hundreds Number Phrase (B_{ae})

The number 100 is expressed by the feminine singular declension of MAH. The number 200 is expressed either by the feminine dual MATYYM or with the feminine construct of 2 (STY) and the plural MAWT. All remaining multiples of 100 (3-9) are expressed with the masculine singular construct of the multiple and the feminine plural of 100.

Examples: 100 = MAH
200 = MATYYM or STY MAWT
300 = SLWS MAWT
400 = ARBO MAWT
900 = TSO MAWT

Since the masculine singular absolute form is identical with the masculine singular construct form, it is not clear, at this point, that the numbers 3-9 are constructs. However, the parallel condition in multiples of 1000 (see Section 4.2.3.5.16), clearly uses constructs; therefore, it is proper to interpret the same numbers as constructs in this context. Likewise, it is consistent with the use of the construct of 2 in the number 200.

There are three classes of this symbol. Class 1 contains the number 100. The rule is:

$$B_{ae}(100010003g) = B(1000500012) \tag{18.1}$$

Class 2 contains the number 200 which has two alternate forms. The rules are:

$$B_{ae(100020003g)} = B(1000500022) \qquad (18.2)$$

$$B_{ae(100020003g)} = I(1000200032) + B(1000500032) \qquad (18.3)$$

Class 3 contains the numbers 300, 400, 500, 600, 700, 800, and 900. The rule is:

$$B_{ae(100030003g)} = I(1000300011) + B(1000500032) \qquad (18.4)$$

No compounding is permitted, and the phrase is ambiguous for the gender attribute.

2.2.3.5.16 Thousands Number Phrase (B_{af})

This phrase contains the number 1,000 and multiples of 1,000. The number 1,000 is expressed by the masculine singular form ALP. The number 2,000 is expressed either by the dual ALPYYM or with the masculine contruct of 2 (SNY) and the plural ALPYM. All remaining multiples of 1,000 (3-9) are expressed with the feminine construct of the multiple and the plural of 1,000.

Examples: 1,000 = ALP
2,000 = ALPYYM or SNY ALPYM
3,000 = SLWST ALPYM
9,000 = TSOT ALPYM

There are three classes of this symbol. Class 1 contains the number 1,000. The rule is:

$$B_{af(100010003g)} = B(1000600011) \qquad (19.1)$$

Class 2 contains the number 2,000 which has two alternate forms. The rules are:

$$B_{af(100020003g)} = B(1000600021) \qquad (19.2)$$

$$B_{af(100020003g)} = I(1000200031) + B(1000600031) \qquad (19.3)$$

Class 3 contains the numbers of 3,000, 4,000, 5,000, 6,000, 7,000, 8,000, and 9,000. The rule is:

$$B_{af(100030003g)} = I(1000300031) + B(1000600031) \qquad (19.4)$$

The phrase is ambiguous for the attribute of gender. The masculine form of 1,000 is used throughout, and the feminine construct form of numbers

3-9 are used. No compounding is permitted.

2.2.3.5.17 The 1-to-99 Number Prase (B_{ba})

This phrase contains the numbers 1 to 99. There are five classes of this symbol. Class 1 contains the numbers 1 to 9. The rule is:

$$B_{ba(10001000ng)} = B_{aa(10009000ng)} \tag{20.1}$$

Example: SLWSH--*three (masc.)*

Class 2 contains the number 10. The rule is:

$$B_{ba(100020003g)} = B_{ab(100010003g)} \tag{20.2}$$

Example: OSR--*ten (fem.)*

Class 3 contains the number 11 to 19. The rule is:

$$B_{ba(100030003g)} = B_{ac(100090003g)} \tag{20.3}$$

Example: AXD OSR--*eleven (masc.)*

Class 4 contains multiples of 10 only, not including 10. The rule is:

$$B_{ba(100040003g)} = B_{ad(100090003g)} \tag{20.4}$$

Example: TSOYM--*ninety (masc./fem.)*

Class 5 contains multiples of 10 plus units, not including the numbers in Classes 1 through 4 above, that is

21 to 29
31 to 39
etc.
91 to 99

the rule is:

$$B_{ba(100050003g)} = B_{ad(100090003g)} + C_{(10001)} + B_{aa(100090009g)} \tag{20.5}$$

Example: SLWSYM WAXD--*thirty-one (masc.)*

OSRYM WTSO--*twenty-nine (fem.)*

2.2.3.5.18 The 100-to-999 Number Phrases (B_{bb})

This phrase contains the numbers from 100 to 999. There are two classes of this symbol. Class 1 contains the number 100 and its multiples up to 900. The rule is:

$$B_{bb}(100010003g) = B_{ae}(100090003g) \qquad (21.1)$$

Example: SLWS MAWT--*three hundred (masc./fem.)*

Class 2 contains 100 or multiples of 100 plus any number from 1 to 99, not including numbers in Class 1 above. That is

101-199
201-299
etc.
901-999

the rule is:

$$B_{bb}(100020003g) = B_{ae}(100090003g) + C(90001) + B_{ba}(100090009g) \qquad (21.2)$$

Example: SLWS MAWT (W)TSOYM--*three hundred ninety (masc./fem.)*

SLWS MAWT TSOYM WAXD--*three hundred ninety-one (masc.)*

2.2.3.5.19 The 1-999 Number Phrase (B_a)

This phrase contains the numbers from 1 to 999. The symbol has two classes. Class 1 contains the numbers from 1 to 99. The rule is:

$$B_a(10001000ng) = B_{ba}(10009000ng) \qquad (22.1)$$

The class 2 contains the numbers from 100 to 999. The rule is:

$$B_a(100020003g) = B_{bb}(100090003g) \qquad (22.2)$$

2.2.3.5.20 The 1000-to-9999 Number Phrase (B_{bc})

This phrase contains the numbers 1,000 through 9,999. This symbol has two classes. Class 1 contains the number 1,000 and multiples of 1,000 up to 9,000. The rule is:

$$B_{bc(100010003g)} = B_{af(100090003g)} \qquad (23.1)$$

Example:
SLWST ALPYM--*three thousand (masc./fem.)*

Class 2 contains 1,000 or multiples of 1,000 plus the numbers 1-999, not including Class 1 above. That is

1,001 to 1,999
2,001 to 2,999
etc.
9,001 to 9,999

The rule is:

$$B_{bc(100020003g)} = B_{af(100090003g)} + C_{(10001)} + B_{a(100090003g)} \qquad (23.2)$$

Examples:
SLWST ALPYM SLWS MAWT--*three thousand and three hundred (ambig.)*
SLWST ALPYM SLWS MAWT WOSRYM--*three thousand three hundred and twenty (ambig.)*
SLWST ALPHYM WSLWS MAWT WSLWSH OSR--*three thousand three hundred and thirteen (masc.)*.

No compounding is permitted.

2.2.3.5.21 The 1-to-9999 Numbers Phrase (B_p)

This phrase includes all numbers from 1 to 9,999. There are two classes of this symbol. Class 1 contains numbers 1 to 999. The rule is:

$$B_{p(10001000ng)} = B_{a(10009000ng)} \qquad (24.1)$$

Class 2 contains the numbers 1,000 to 9,999. The rule is:

$$B_{p(100020003g)} = B_{bc(10009000ng)} \qquad (24.2)$$

Further rules may be written for numbers greater than 9,999 by continued expansion of the previous techniques. However, no further rules are written here.[33] One of the two classes of B_p will generate the structure for any number from 1 to 9,999. See sentence 26A for an example of the structure of this phrase.

2.2.3.5.22 The Simple Noun Phrase (N_{pb})

The simple noun phrase serves as the nucleus of the regular noun phrase (N_{pa}). It consists of a noun (or its equivalent) and its optional post-nominal modifiers. (Pre-nominal modifiers are added at a higher structural level.) There are three classes of this phrase. In Classes 1 and 2, the nucleus of the phrase is a noun; in Class 3 the nucleus is a verbal noun (participle). The difference between Classes 1 and 2 is that Class 1 contains an optional adjectival possessive phrase, whereas Class 2 contains a possessive noun phrase (N_s), that is, possession is expressed by a pronominal suffix.

Class 1 consists of a basic noun phrase (N_a) followed by various optional post-nominal modifiers such as an adjective phrase (A_p), a demonstrative pronoun phrase, and an adjectival possessive phrase (A_s). See sentences 2, 3 and 5 for examples of this phrase. The rule is:

$$N_{pb(10010ydngp)} = N_{a(1299900dngp)} + A_{p(9199909dng)} \qquad (25.1)$$

$$+ R_{d(9000900dngp)} + A_{s}(9199900)$$

The adjective phrases (A_p,A_s) may be compounded after Pattern 1, if present. The compounding of A_p produces a string of adjectives all of which modify N_a. The order of the adjectives usually follow the natural order of adjectives in English so that those most remote from the noun in English are most remote in Hebrew, that is, those that come first in English come last in Hebrew. Usually the range of remote adjectives governs the range of near adjectives as follows:

$$((((N)A_1)A_2)A_3)A_n)\text{--Hebrew order}$$

$$(A_n(A_3(A_2(A_1(N)))))\text{--English order}$$

---

[33] It appears that the number phrase should also include the ordinal number phrase. The internal syntax of ordinal numbers is the same as cardinals except for numbers 1-9. However, the external syntax is somewhat different.

The rules on N_{pb} do not reflect this feature of the language.

The basic noun phrase (N_a) may be compounded after Pattern 2 which requires agreement of the attribute of definiteness for each compounded constituent, and which permits certain permutations of number, gender, and person. This permits the construction of the following equivalent phrases:

HYLDYM H@WBYM--*the good children*
HYLD WHYLDH H@WBYM--*the good boy and girl*
HYLDYM WHYLDWT H@WBYM--*the good boys and girls*

In each case the basic noun phrase is masculine, plural, and definite, and the adjective agrees in these attributes. Note that the mixed gender is treated as a masculine.

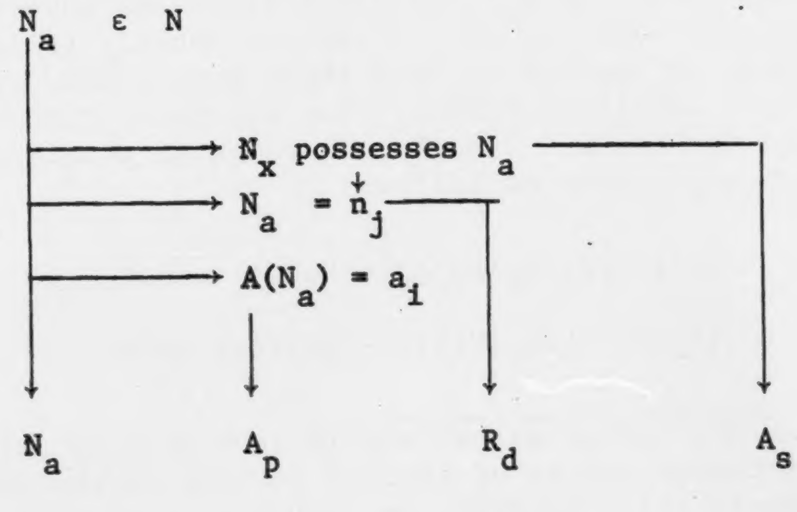
The adjective phrase is optional. It may be compounded after Pattern 1, and it must agree with the basic noun phrase in number, gender, and definiteness. The demonstrative pronoun is optional. It cannot be compounded, but it must agree with the basic noun phrase, in number, gender, person, and definiteness. The possessive phrase is optional and may be compounded after Pattern 1.

Examples:
YLDYM--*boys*
YLDYM @WBYM--*good boys*
HYLDYM H@WBYM HALH--*these good boys*
HYLDYM H@WBYM SL HAYS--*the man's good boys*

The deep structure derivation of this constituent is as follows:

Given: a set of objects with attribute A

$N(A) = \{n_1, n_2, \ldots n_j, \ldots n_j\}$



Class 2 consists of the alternated form in which a genitive pronoun phrase (N_s) is used as the nucleus. In this case, the adjectival possessive phrase (A_s) is not used. Also, it is doubtful that a demonstrative pronoun is used in this case.

Example:

CPRW H@WB--*his good book*

The rule is:

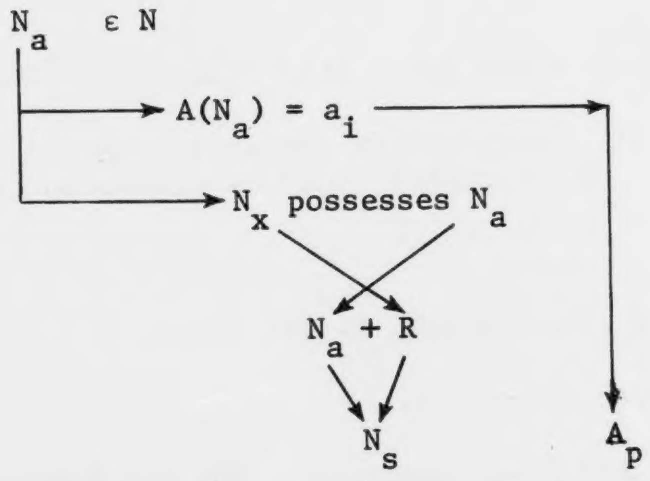
$$N_{pb(100020y2ngp)} = N_{s(100010y2ngp)} + A_{p(91999092ng)} \qquad (25.2)$$

In this case the phrase always is definite. Attributes *n, g,* and *p* are dependent variables. The adjective phrase is optional, but when used it may be compounded after Pattern 1.

The deep structure derivation of this constituent is as follows:

Given: a set of objects with attribute A

$$N(A) = \{n_1, n_2, \ldots n_j, \ldots n_J\}$$



Class 3 consists of the alternate form in which the noun phrase is replaced by a participle phrase (E_p). The rule is:

$$N_{pb(100030ydngp)} = E_{p(100090ydngp)} \qquad (25.3)$$

Attributes *y, d, n,* **g**, and *p* are dependent variables. The participle phrase is not expected to be modified by adjectives, etc., because the modifiers would tend to be ambiguous.

Example:

AWKLY TPWXYM @WBYM--*eaters of good apples*, but not *good eaters of apples*

The participle phrase is defined in Section 2.2.3.5.60

2.2.3.5.23 The Regular Noun Phrase (N_{pa})

The regular noun phrase serves as the key building block of the general noun phrase (N_p) and consists of a simple noun phrase followed by an optional locative adverb, and preceded by an optional number phrase and an optional construct noun.[34] There are three variations of these combinations that constitute the three classes of this symbol. Class 1 is used when no construct nouns are required; it contains an optional number phrase followed by a simple noun phrase, followed by an optional locative adverb. See sentences 1, 4 and 5 for examples of this phrase. The rule is:

$$N_{pa(1000100dngp)} = B_{p(90009000ng)} + N_{pb(1000900dngp)} + D_{(9499200)} \qquad (26.1)$$

Attributes *n, g, p,* and *d* are dependent variables. The number phrase (B_p) is optional, but, when present, it must agree in number and gender. It may not be compounded. The adverb is optional, but may be compounded after Pattern 4.

Example:

SLWSH YLDYM @WBYM SM---*three good boys there*

The adverb (D), here and in the following rules, is not permitted to be negated. The negative would be expressed by a relative clause.

Example:

ASR LWA SM---*who is not there*

The structure is covered elsewhere.

Class 2 is used when construct nouns are required; it contains an optional number phrase followed by a construct noun followed by an optional sequence of construct nouns, followed by a basic noun phrase (N_a), followed by an optional locative adverb. See sentences 1, 2, 3 and 10 for examples. The rule is:

$$N_{pa(1000200dngp)} = B_{p(90009000ng)} + J_{10001000ngp)} + J_{(94991000999)} + N_{pb(1000900d999)} + D_{(9499200)} \qquad (26.2)$$

---

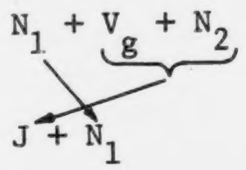
[34] The rules on the regular noun phrase should include the syntax of qualifiers such as "all," "some," etc.

The first construct noun is madatory and its attributes of number, gender, and person are dependent variables; it cannot be compounded. The second construct noun is optional, and may be compounded after Pattern 4. Attributes of number, gender, and person are independent variables. This structure permits an unlimited sequence of construct nouns.

Example:
BTY MLK YSRAL---*the houses of the king of Israel*

The deep structure derivation of the relationship of J with the word that follows it is:

V_g = Subject governs object by genitive relationship.



This derivation may be repeated to produce strings of J such as

$$J_1 + J_2 + J_3 + \dots + J_n + N_1$$

In this case the range of the remote J governs the range of the near J, as follows:

$$(J_1(J_2(J_3\dots(J_n(N_1)))))$$

The number phrase (B_p) is optional, but, if present, it must agree in number and gender. It cannot be compounded, and does not require the definite article. The simple noun phrase (N_{pb}) is mandatory and its attribute of definiteness is a dependent variable, but number, gender, and person are independent variables. The locative adverb is optional.

Example:
SLWST BTY MLK YSRAL SM---*the three houses of the kink of Israel there*

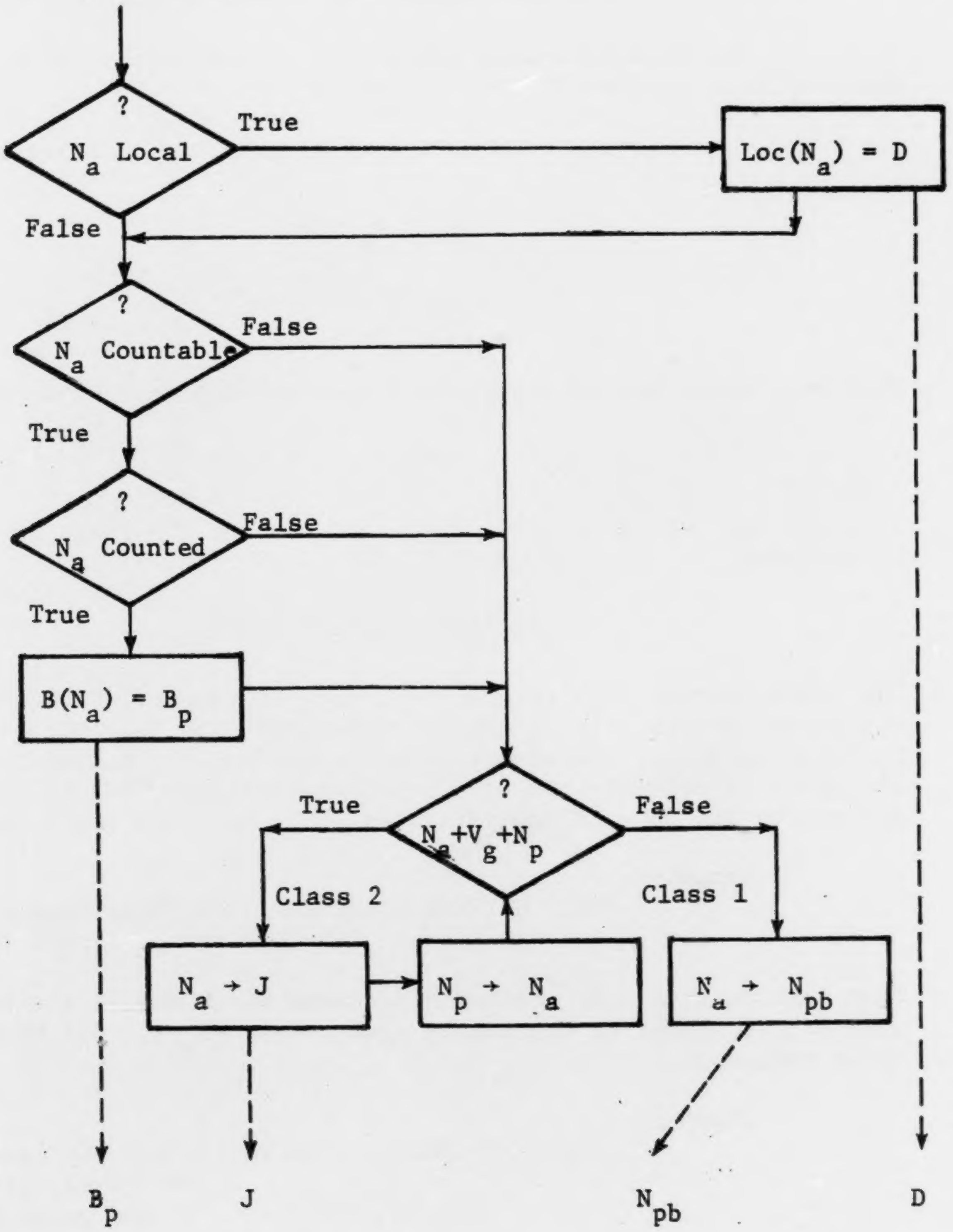
This construction also permits adjectives which modify the construct noun (J) to appear in the simple noun phrase (N_{pb}). But these tend to be ambiguous.

Example:
SLWST BTY HMLKYM HGDWLYM---*three big houses of the kings*, or *three houses of the great kings*

The deep structure derivation of this constituent is as follows:

$N = \{n_1, n_2, \ldots n_j, \ldots n_J\}$

$N_a \in N$


?
N_a Local
True
Loc(N_a) = D
False
?
N_a Countable
False
True
?
N_a Counted
False
True
B(N_a) = B_p
?
N_a+V_g+N_p
True
False
Class 2
Class 1
N_a → J
N_p → N_a
N_a → N_pb
B_p
J
N_pb
D

In class 3, a definite number phrase (B_c) stands in place of a nound phrase, in which case the number may be definite. If the phrase is definite the first number of a sequence has the definite article.

Example:

HSLWSYM WORBH OLW LYRWSLM---*the thirty-four went up to Jerusalem*

The rule is:

$$N_{pa(1000300dngp)} = B_{c(1000900dng)} \qquad (26.3)$$

The definite number phrase (B_c) is defined in Section 2.2.3.5.37.

2.2.3.5.24 The Appositional Noun Phrase (N_{pc})

The appositional noun phrase is used in the appositional phrase. There is one class of this phrase consisting of a regular noun phrase that may be compounded after Pattern 2. The rule is:

$$N_{pc(1000100dngp)} = N_{pa(1299919dngp)} \qquad (27.1)$$

Attributes d, n, g, and p are dependent variables.

The use of this phrase enables the construction of appositional phrases that agree with the associated noun phrase in number, gender, and person, and that have complete freedom of permutation within these limits. For example, it enables the construction of the phrase

HYLDYM, *AWRY WDN*---*the boys, Uri and Dan*

where the plural noun phrase (the boys) is modified by the plural appositional phrase (Uri and Dan) which is made up of two singular proper nouns. See sentence A for an example of this phrase.

2.2.3.5.25 The Appositional Phrase (N_{ap})

The appositional phrase may follow a regular noun phrase (N_{pa}) to further modify it. There are three classes of this phrase. Class 1 consists of an appositional noun phrase (N_{pc}) set off by commas. See sentence A for an example.

Example:

HYLD, *AWRY*,---*the boy, Uri*

38

The rule is:

$$N_{ap(1000100dngp)} = T_{(10003)} + N_{pc(1399119dngp)} + T_{(10003)} \qquad (28.1)$$

The appositional noun phrase (N_{pc}) may be compounded after Pattern 3. Attributes *d*, *n*, *g*, and *p* are dependent variables.

Class 2 consists of a prepositional phrase (X_p). See sentences 1 and 101 for examples.

Example:
HYLD *BBYYT---the boy in the house*

The rule is:

$$N_{ap(1000200dngp)} = X_{p(149990900009)} \qquad (28.2)$$

Compounding is permitted after Pattern 1. Attribute *r* is an independent attribute.

Class 3 consists of a relative clause. See sentences 10, 11 and 12 for examples.

Example:
HYLD *ASR BA---the boy who came*

The rule is:

$$N_{ap(1000300dngp)} = R_{g(1199909dngp)} \qquad (28.3)$$

Compounding is permitted after Pattern 1. Attributes *d*, *n*, *g*, and p are dependent variables.

2.2.3.5.26 The General Noun Phrase (N_p)

The general noun phrase consists of the regular noun phrase and an optional appositional phrase. There is only one class of this symbol. The rule is:

$$N_{p(1000100dngp)} = N_{pa(1000900dngp)} + N_{ap(90009002ngp)} \qquad (29.1)$$

Attributes *d*, *n*, *g*, and *p* are dependent variables.

The appositional phrase is always definite. Compounding is not permitted for either noun phrase. From this one phrase all possible noun phrase constructions are made. All example sentences contain illustrations of this phrase.

2.2.3.5.27 This section is not used.

2.2.3.5.28 This section is not used.

2.2.3.5.29 This section is not used.

2.2.3.5.30 The Adverb Phrase (D_p)

The adverb phrase often is used to modify a verb. A few adverbs may modify a noun phrase, and a few adverbs may be used to modify adjectives or other adverbs. Reference is made to the section describing terminal symbols for a discussion of adverbs.

It appears that members of different adverb classes may stand together without connecting words or punctuation, but members of the same class must have a connecting conjunction between them.

Examples:

MLAH MAWD SM HYWM---*very full there today*
but: HNH WSM ---*here and there*

The adverb phrase is not negated, but individual constituent adverbs may be negated with a Class 1 negative (LWA). There are five classes of the adverb phrase. Class 1 is the temporal adverb phrase which expresses time relationship and modifies verbs only. It consists of a sequence of temporal adverbs. The rule is:

$$D_{p(1000100)} = D_{(1199119)} \qquad (33.1)$$

The adverb may be compounded after Pattern 1.

Example:

ATMWL, HYWM, WMXR---*yesterday, today, and tomorrow*

Class 2 is the locative adverb phrase which expresses spatial relationship and modifies verbs and noun phrases. It consists of a sequence of locative adverbs. The rule is:

$$D_{p(1000200)} = D_{(1199219)} \qquad (33.2)$$

The adverb may be compounded after Pattern 1.

Example:
YSB *SM----he sat there*
HYLD *SM---the boy there*

Class 3 consists of the qualitative adverb phrase. The rule is:

$$D_{p(1000300)} = D_{(1199319)} \tag{33.3}$$

Class 4 is the intensity adverb phrase. Adverbs of intensity may modify adjectives and themselves.

Examples:
@WB *MAWD----very good*
HRBH *MAWD---very much*
MAWD *MAWD---very much*

The present phrase covers the last example only. The others are included in their respective rules. See sentence 5 for an example of this phrase. The rule is:

$$D_{p(1000400)} = D_{(1000419)} + D_{(9000400)} \tag{33.4}$$

Further compounding of this phrase seems unlikely.

Class 5 consists of a prepositional phrase that answers the question when, where, or how. further research is required to define this relationship. For the present the following rule covers the situation. See sentence 10 for an example.

$$D_{p(10005000)} = X_{p(119990y00009)} \tag{33.5}$$

2.2.3.5.31 The Basic Participle Phrase (E_a)

The participle is a verbal noun that may stand in place of a noun in many constructions. As a noun, the participle may take the definite article. As a verb, it expresses the present tense and does not take the definite article. This phrase is used to define the structure of the definite and indefinite participle. There is one class of this phrase. For the indefinite participle the rule is:

$$E_{a(100010ydngprav00sw)} = E_{(100011y0ngprav00sw)},\ d \neq 2 \tag{34.1}$$

For the definite participle the rule is:

$$E_{a(100010y2ngprav00sw)} = H_{(100011y)} + E_{(10001000ngprav00sw)} \tag{34.2}$$

See sentences A, 403, and 26A for examples.

2.2.3.5.32 The Verb-Mood Phrase (V_b)

Modern Hebrew has three verbal moods: indicative, imperative, and subjunctive. The indicative and imperative have their own distinctive inflectional forms but the subjunctive mood has lost its distinctive form and appears identical to the indicative future tense. However, there are structural distinctions which identify certain occurrences of the subjunctive mood.

The verb-mood phrase has one class that produces the structure of (1) the Indicative Verb-Mood Phrase, (2) the Imperative Verb-Mood Phrase, and (3) the Subjunctive Verb-Mood Phrase. Most example sentences illustrate the use of this phrase.

The Indicative Mood of verbs may appear in any tense, number, and person. It takes a Class 1 negative (LWA) and it requires no auxiliary constituents to identify it. The rule is:

$$V_{b(100010y0ngpravltsw)} = V_{(100011y0ngpravltsw)} \qquad (35.1)$$

The Imperative Mood has retained its distinctive inflectional form in modern Hebrew. It appears only in second person conjugations and takes a Class 1 negative (LWA). Imperative verb phrases are used in imperative sentences (See Section 2.2.3.5.76). The rule is:

$$V_{b(100010y0ng2rav22sw)} = V_{(100011y0ng2rav22sw)} \qquad (35.2)$$

The Infinitive Absolute may also serve as an imperative. In this construction the Infinitive Absolute takes a Class 1 negative (LWA) and it may govern a verb modifying phrase. The rule is:

$$V_{b(100010y0ng2rav22sw)} = W_{(100011y0000rav00sw)} \qquad (35.3)$$

The Subjunctive Mood as considered here covers all three persons and includes in a rather general way the cohortative and jussive of Classical Hebrew. The subjunctive mood has lost its distinctive inflectional form in modern Hebrew and it usually appears identical to the future tense. However, it retains two structural distinctions which identify the subjunctive mood in certain cases: (1) the particle *NA* following a future tense verb (either indicative or imperative) signifies a subjunctive mood. The particle *NA* also changes an imperative to the force of a subjunctive mood. (2) The negative *AL* preceding a future tense indicative verb signifies a subjunctive mood. The negative *AL* never precedes an imperative form. Other subjunctives are indistinguishable from a future tense indicative verb. The treatment of subjunctives at this level does not include verb modifying phrases. These are covered in a later section. The structure of the subjunctive verb phrase is

$$V_{b(100010y0ngprav32sw)} = V_{(100014y0ngprav12sw)} \quad (35.4)$$

$$+ U_{(1000200)}$$

$$V_{b(10001000ngprav32sw)} = V_{(10001000ngprav22sw)} \quad (35.5)$$

$$+ U(1000200)$$

$$V_{b(10001010ngprav32sw)} = V_{(10001410ngprav22sw)} \quad (35.6)$$

Rule (35.4) states that a subjunctive mood future tense verb is represented by the future tense indicative inflection of the verb followed by the particle *NA*; the negative is expressed by the Class 4 negative *AL*.

Example:

TBWA NA------*please come*
AL TBWA NA---*please do not come*

Rules (35.5) and (35.6) state that an alternative representation of the subjunctive mood future tense verb is the imperative inflection of the verb followed by the particle *NA* for positive statements or the imperative inflection of the verb preceded by the Class 4 negative *AL* for negative statements.

Examples:

BWA NA-------*please come*
AL BWA-------*please do not come*
but not: *AL BWA NA---*please do not come*

2.2.3.5.33 The Three-Tense Verb Phrase (V_{bb})

Hebrew has three tense inflections for the verb. The past tense is expressed by the inflection known as the perfect tense in classical Hebrew. The future tense is expressed by the inflection known as the imperfect tense in classical Hebrew. The present tense does not have a distinct tense inflection; it is expressed by the participle (E). This phrase with the appropriate emphatics and auxiliaries is used to express the seven tenses of modern Hebrew. See sentences A and 4 for illustrations of this phrase. The rules are:

$$V_{bb(100010y0ngpravitsw)} = V_{b(100010y0ngpravitsw)},\ t=1,2 \quad (36.1)$$

$$V_{bb(100010y0ngpravi3sw)} = E_{a(100010y1ngprav00sw)} \quad (36.2)$$

Example:

KTBH-----*she wrote*
YKTWBW---*they will write*
KWTBYM---*(they) are writing*

2.2.3.5.34 The Emphatic Verb Phrase (V_c)

Classical Hebrew verbs have three states of emphasis: (1) emphasis of certainty, (2) emphasis of duration, and (3) no special emphasis. This phrase expresses these three states of emphasis. These states of emphasis are expressed by modifying the three-tense verb phrase (V_{bb}) with an Infinitive Absolute (W) of the same root and stem. The Infinitive Absolute, when used in this construction, is known as a Cognate Infinitive. This construction is not used in modern Hebrew. There are three classes of the emphatic verb phrase.

Class 1 expresses emphasis of certainty and consists of a Cognate Infinitive immediately before the finite verb.

Examples:

SMWR SMR------*he surely kept*
SMWR YSMWR----*he surely will keep*

the rule is:

$$V_{c(100010y0ngpravitsw)} = W_{(10001000000rav00sw)} + V_{bb(100010y0ngpravitsw)},\ t \leq 3 \tag{37.1}$$

Class 2 expresses emphasis of duration and consists of a Cognate Infinitive immediately following the finite verb.

Example:

SMR SMWR-----*he continually kept*
YSMWR SMWR---*he will continually keep*

the rule is:

$$V_{c(100020y0ngpravitsw)} = V_{bb(100010y0ngpravitsw)} + W_{(20001000000rav00sw)},\ t \leq 3 \tag{37.2}$$

Class 3 expresses no special emphasis and contains a finite verb only, no Cognate Infinite. Most example sentences contain illustrations of this phrase. The rule is:

$$V_{c(100030y0ngpravitsw)} = V_{bb(100010y0ngpravitsw)},\ t \leq 3 \tag{37.3}$$

In this phrase, attributes *r*, *a*, *v*, *s*, and *w* are dependent variables for both verb and infinitive. This is the only phrase that requires agreement of stem (s) and root (w) for its constituents. In addition, attributes *n*, *g*, *p*, *i*, and *t* are dependent variables for the verb. No compounding is permitted.

The Cognate Infinitive does not take a negative. The negative, when present, precedes the verb.

Examples:

SMWR LWA SMR------*he surely did not keep*
LWA YSMWR *SMWR*----*he will not continually keep*

The Cognate Infinitive may modify a verb of any mood and of past, present, or future tense inflection. Note, however, that the Cognate Infinitive may appear in a verb phrase of any tense when accompanied by the appropriate auxiliaries.

Examples:

SMWR SMR---------*he surely kept* (past tense)
SMWR YSMWR-------*he surely will keep* (future tense)
SMWR SWMR--------*he surely is keeping* (present tense)
HYH *SMWR* SWMR----*he surely was keeping* (past (past continuous)
YHYH *SMWR* SWMR---*he surely will continue keeping* (future continuous)
MS-*SMWR* SMR------*after he had surely kept* (pluperfect)
LKS-*SMWR* YSMWR---*after he will have surely kept* (future perfect)

These additional tenses are generated at a higher structural level defined in the next section.

2.2.3.5.35 The Seven-Tense Verb Phrase (V_{aa})

Hebrew has seven verbal tenses but only three tense inflections. Three tenses are expressed by the three tense inflections of the verb without auxiliary words. The remaining tenses are expressed by the three tense inflections with auxiliary words. This phrase converts the seven verbal tenses into their corresponding inflectional tense plus any required auxiliary. Most example sentences contain illustrations of this constituent. There is one class of this phrase. The past, present, and future verbal tense are expressed by an emphatic verb phrase (V_c) of the same tense. The rule is:

$$V_{aa(100010y0ngpravitsw)} = V_{c(100090y0ngpravitsw)}, \quad t \leq 3 \qquad (38.1)$$

Examples: KTB--*he wrote* (past, non-emphatic)

KTWB YKTWB--*he surely will write* (future, emphatic)

KWTB--*he is writing* (present, non-emphatic)

The past continuous verbal tense is expressed by the past tense (non-emphatic) of the auxiliary copulative verb (HYH) plus a present tense emphatic verb phrase (V_c). The rule is:

$$V_{aa(100010y0ngpravi4sw)} = V_{c(100030y0ngp01vi(12,HYH*))} \qquad (38.2)$$

$$+ V_{c(10009000ngpravi3sw)}$$

Example: HYH KWTB--*He was writing*

The past continuous tense is not used in classical Hebrew.

The future continuous verbal tense is expressed by the future tense (non-emphatic) of the auxiliary copulative verb (HYH) plus a present tense emphatic verb phrase (V_c). The rule is:

$$V_{aa(100010y0ngpravi5sw)} = V_{c(100030y0ngp01vi2(12,HYH*))} \qquad (38.3)$$

$$+ V_{c(10009000ngpravi3sw)}$$

Examples: YHYH KWTB--*he will continuously write*

YHYW KWTBYM--*they will continuously write*

The future continuous tense is used in Mishnaic Hebrew only.

The pluperfect verbal tense is expressed by the adverb MS (see Section 2.2.2.4.4, note at end) plus a past tense emphatic verb phrase (V_c). The negative, when it occurs, appears before the adverb. The rule is:

$$V_{aa(100010y0ngpravi6sw)} = D_{(100071y)} + V_{c(10009000ngpravi1sw)} \tag{38.4}$$

Example: MSKTB--*after he had written*

The pluperfect tense is used in subordinate clauses only.

The future perfect verbal tense is expressed by the adverb LKS with a future tense emphatic verb phrase (V_c). The negative, when it occurs, appears before the adverb. The rule is:

$$V_{aa(100010y0ngpravi7sw)} = D_{(100061y)} + V_{c(10009000ngpravi2sw)} \tag{38.5}$$

Example: LKSYKTWB--*after he will have written*

The future perfect tense is used in subordinate clauses only.

For the special case of present tense, active voice, indicative mood of the copulative verb (t=3, v=1, i=1, a=1) the copulative is omitted. See sentence 1DD for an illustration of this phase. The rule is:

$$V_{aa(10001000ngpr1113sw)} = * \tag{38.6}$$

For the special case of present tense, active voice, indicative mood, third person of the copulative verb (t=3, v=1, i=1, p=3, a=1) the copulative may be replaced by a subject pronoun. See sentence 1DDD for an illustration of this phrase. The rule is:

$$V_{aa(10001000ng3r1113sw)} = R_{(10002000ng3)} \tag{38.7}$$

2.2.3.5.36 The Verb Phrase (V_a)

The verb phrase consists of a verb of any mood, tense, emphasis, number, gender, and person. However, Hebrew verbs do not have a distinct inflectional form for the dual number as in the case of nouns. The dual number for verbs takes the plural inflection of the verb. This phrase converts the dual number into the plural for verbs. Most example sentences contain illustrations of this constituent. The rules are:

$$V_{a(100010y0ngpravitsw)} = V_{aa(100010y0ngpravitsw)},\ n \neq 2 \qquad (39.1)$$

$$V_{a(100010y02gpravitsw)} = V_{aa(100010y03gpravitsw)} \qquad (39.2)$$

2.2.3.5.37 The Definite Number Phrase (B_c)

In certain contexts a number phrase may have the attribute of definiteness, in which case the definite article precedes the number phrase. There are two classes of this phrase. Class 1 is for indefinite number phrases. The rule is:

$$B_{c(1000100dng)} = B_{p(10009000ng)},\ d \leqq 1 \qquad (40.1)$$

Class 2 is for the definite number phrase. The rule is:

$$B_{c(10002002ng)} = H_{(1000100)} + B_{p(10009000ng)} \qquad (40.2)$$

See Section 2.2.3.5.23 in the material on Rule (26.3) for the use of this phrase and an illustration.

2.2.3.5.38 The Prepositional Phrase (X_p)

Prepositional phrases consist of a preposition (P) followed by a noun phrase or its equivalent. There are three classes of this phrase. Class 1 is the prepositional phrase containing a noun phrase (N_p). The rule is:

$$X_{p(100010y0000r)} = P_{(100011y0000r)} + N_{p(11991009999)} \qquad (41.1)$$

Example: AL HBYYT--*to the house*

Attributes *y* and *r* are dependent variables. The preposition carries the negation, when present, with a Class 1 negative (LWA); it may not be compounded. The noun phrase may be compounded after Pattern 1; its attributes *k*, *c*, *d*, *n*, *g*, and *p* are independent variables.

A special variation of Class 1 is the prepositional phrase consisting of a noun followed by a Class 7 particle (H-locative particle). This particle implies "motion toward" and has the force of a preposition.

Example: OLH *YRWSLYMH--he went up* *to Jerusalem*
(equivalent of: OLH LYRWSLYM)

OLH *HOYRH--he went up* *to the city*

The rule is:

$$X_{p(100010y0000r)} = N_{a(100091y2999)} + U_{(1000700)},\ r=1,6 \qquad (41.2)$$

In this case the moun must be definite. See sentences A, 1, 2, 3, etc., for examples.

The noun is not compounded or modified. It is limited to nouns of place, but presently no semantic descriptors distinguish such nouns in this grammar. When semantic descriptors are adapted to this grammar, that limitation can be placed on the above rule.

Class 2 is the prepositional phrase containing a pronoun in place of the noun phrase.[35] The rule is:

$$X_{p(100020y0000r)} = Z_{(100010y0999r)} \qquad (41.3)$$

Example: ALYHM--*to them*

attributes *y* and *r* are dependent variables. See sentence 23 for an example of this constituent.

Class 3 is the prepositional phrase containing a relative pronoun clause (R_g) in place of the noun phrase. The rule is:

$$X_{p(100030y0000r)} = P_{(100011y0000r)} + R_{g(11999009999)} \qquad (41.4)$$

Example: AL ASR BWNH BTYM--*to the one who builds houses*

---

[35] There is some question that the prepositional phrase (Z) should be included in X_p in all cases. Further study is required.

Attributes y and r are dependent variables. The relative pronoun clause (R_g) is defined in Section 2.2.3.5.67; it may be compounded after Pattern 1 and its attributes k, c, d, n, g, and p are independent variables. The noun phrase and the relative pronoun clause may be compounded after Pattern 1. This permits the omission of succeeding appearances of identical prepositions in a compound prepositional phrase.

Example: BBYYT, A&L HO&, WOL GBOH--*in the house, by the tree, and on the hill*

AL HAYS, HASH, WHYLDYM--*to the man, woman, and children*

The first example illustrates a compounded prepositional phrase using different prepositions. This is accomplished by compounding the phrase at a higher structural level. The second example illustrates a compound preposition phrase using the same preposition. This is accomplished at this present level by compounding the noun phrase or relative clause.

2.2.3.5.39 The Direct Object Phrase (N_o)

The Direct Object Phrase serves as the direct object of a verb. There are two classes of this phrase. Class 1 consists of the sign of the direct object (O) and a definite noun phrase (N_p). The rule is:

$$N_{o(100010y2ngp)} = O_{(100011y)} + N_{p(10001002ngp)} \quad (42.1)$$

Example: AT HYLDYM H@WBYM--*the good children*

No compounding is permitted. Negation is carried by the sign of the direct object (O). The noun phrase (N_p) is always definite, and its attributes n, g, and p are dependent variables. See sentences A, 6, 8, and 12 for examples of this constituent.

Class 2 consists of the sign of the direct object (O) and a definite relative clause (R_g). The rule is:

$$N_{o(100020y2ngp)} = O_{(10001y)} + R_{g(10009002ngp)} \quad (42.2)$$

This phrase does not include the direct object pronoun phrase (R_o) which has different syntactic structures.

Example: AT SAKL AT HTPWX--*the one who ate the apple*

2.2.3.5.40 The Copulative Adverb Phrase (D_{pd})

Adverbs of Class 1 and 2 may appear in the predicate position of copulative sentences. There are two classes of this phrase. Class 1 consists of a Class 1 adverb (temporal). The rule is:

$$D_{pd(100010y)} = D_{(119911y)} \qquad (43.1)$$

Example: HHG HWA *HYWM--the holiday is* *today*

Class 2 consists of a Class 2 adverb (locative). The rule is:

$$D_{pd(100020y)} = D_{(119921y)} \qquad (43.2)$$

Example: HBYYT HYH *SM--the house was* *there*

Compounding is permitted after Pattern 1. Negation, when present, uses a Class 1 negative (LWA).

2.2.3.5.41 The Subject Pronoun Phrase (R_{sp})

The subject pronoun phrase may serve as the subject of a verb. There are two classes of this phrase. Class 1 consists of a subject pronoun and an optional appositional noun phrase (N_{pc}). The rule is:

$$R_{sp(10001002ngp)} = R_{(10002000ngp)} + N_{pc(93991002ngp)} \qquad (44.1)$$

Example: ANY DWD HMLK--*I David the king*

Attributes *n, g,* and *p* are dependent variables. The appositional noun phrase (N_{pc}) may be compounded after Pattern 3, and it is always definite. See sentences 2, 4, 5, and 6 for examples.

Class 2 consists of a demonstrative pronoun. The rule is:

$$R_{sp(10002002ngp)} = R_{(12991000ngp)} \qquad (44.2)$$

Attributes *n, g,* and *p* are dependent variables. Compounding is permitted after Pattern 2. Negation does not occur at this structural level.

2.2.3.5.42 The Subject Phrase (N_{sp})

The subject phrase serves as the subject of a verb. There are four classes of this phrase. Class 1 consists of a noun phrase (N_p). The rule is:

$$N_{sp(1000100dngp)} = N_{p(1299100dngp)} \qquad (45.1)$$

Example: SNY YLDYM @WBYM--*two good boys*

Attributes *d*, *n*, *g*, and *p* are dependent variables. Compounding is after Pattern 2. Negation is not permitted at this level; when it occurs, it takes place at a higher or lower structural level. See sentences A, 1, 3, and 23 for examples.

Class 2 consists of a subject pronoun phrase (R_{sp}). The rule is:

$$N_{sp(1000200dngp)} = R_{sp(12999002ngp)} \qquad (45.2)$$

Example: ANY SAWL MLK YSRAL--*I Saul king of Israel*

All members of this class are definite (d=2). Attributes *n*, *g*, and *p* are dependent variables. Compounding is after Pattern 2. No negation is permitted at this structural level. See sentences 2, 4, 5, and 8 for examples.

Class 3 consists of a subject-object dependent clause (K_n) which is defined in Section 2.2.3.5.68. This clause has the general form

(the fact) that S

where S is a sentence. The rule is:

$$N_{sp(10003002113)} = K_{n(1000900)} \qquad (45.3)$$

Here the attributes are limited to third person, masculine, singular, definite. No compounding is permitted.

Class 4 consists of an infinitive construct phrase (N_v) which is defined in Section 2.2.3.5.54. This phrase, in general, consists of an infinitive construct and its object, if any.

Example: LAKWL TPWX--*to eat an apple*

The rule is:

$$N_{sp(1000400d113)} = N_{v(1000900000099)} \qquad (45.4)$$

The attributes are limited to third person, masculine, singular. No compounding is permitted at this level.

2.2.3.5.43 The Object Phrase (N_{op})

The object phrase serves as the direct object of a verb. There are two classes of this phrase. In Class 1 the object is indefinite, it consists of a noun phrase (N_p). The rule is:

$$N_{op(100010ydngp)} = N_{p(119910ydngp)}, \quad d \neq 2 \qquad (46.1)$$

Example: STY YLDWT @WBWT--*two good girls*

Attribute *y* is a dependent variable. Attributes *n*, *g*, and *p* are independent variables. Compounding is after Pattern 1. See sentences 5, 10, and 11 for examples.

In class 2 the object is definite, it consists of a direct object phrase (N_o). The rule is:

$$N_{op(100020y2ngp)} = N_{o(119990y2ngp)} \qquad (46.2)$$

Example: AT HYLDYM H@WBYM--*the good children*

Attribute y is a dependent variable. Attributes *k* and *c* are independent variables. The attribute definite/indefinite is limited to the definite case (d=2). Compounding is after Pattern 1. See sentences A, 6, 8, and 12 for example.

2.2.3.5.44 The Indirect Phrase (N_{ip})

The indirect phrase consists of those phrases which may serve as indirect object (or the equivalent) of a verb and which occupy the same structural position in a verb phrase. There are two classes of this phrase. In Class 1 the direct object is a noun, it consists of a prepositional phrase (X_p). The rule is:

$$N_{ip(100010y0000r)} = X_{p(119990y0000r)} \qquad (47.1)$$

Example: LYLD H@WB--*for the good boy*

Attributes *y* and *r* are dependent variables, *k* and *c* are independent variables. Compounding is after Pattern 1. See sentence 10, 11 and 12 for examples.

In Class 2 the indirect object is an infinitive, it consists of an infinitive phrase (N_v) which is described in Section 2.2.3.5.56. The rule is:

$$N_{ip(100020y0000r)} = N_{v(119990y000099)} \qquad (47.2)$$

Example: LAKWL AT HTPWX--*to eat the apple*

Attribute y is as dependent variable, attributes k, c, r, and a are independent variables. Compounding is after Pattern 1.

2.2.3.5.45 The Copulative Phrase (N_{px})

The copulative phrase serves as predicate in a copulative sentence, the general structure of which is

$$N_{sp} \text{ is } N_{px}$$

There are five classes of this phrase. Class 1 consists of an adjective phrase (A_p). The rule is:

$$N_{px(100010ydngp)} = A_{p(119990ylng)} \qquad (48.1)$$

Example: YPH MAWD--*very pretty*

Attributes y, n, and g are dependent variables, k and c are independent variables. In this structure the adjective phrase is always indefinite (d=1). Compounding is after Pattern 1. See sentences 2 and 2a for examples. This class is used to generate kernel sentences of the form

$$A(N_{sp}) = A_p$$

which is interpreted "N_{sp} possesses semantic dimension A the value of which is A_p."

Class 2 consists of a copulative adverb phrase (D_{pd}). The rule is:

$$N_{px(100020ydngp)} = D_{pd(149990y)} \qquad (48.2)$$

Example: SM--*there*

Attributes k and c are independent variables, y is a dependent variable. Compounding is after Pattern 4. This class is used to generate kernel sentences of the form $D(N_{sp}) = D_{pd}$ which is interpreted "N_{sp} possess the (time/space) dimension of the value of which is D_{pd}."

Class 3 consists of a noun phrase (N_p). The rule is:

$$N_{px(100030ydngp)} = N_{p(129910ydngp)} \tag{48.3}$$

Example: BWNH BTYM--*a builder of houses*

Attributes y, d, n, g, and p are dependent variables; k is an independent variable. Compounding is after Pattern 2. This class is used to generate kernel sentences of the form $N(N_{sp}) = N_p$, which is interpreted "N_{sp} possesses a *name dimension* the value of which is N_p." See sentence 1 for an example. At a lower structural level this *name dimension* is more exactly defined.

Class 4 consists of a subject pronoun phrase (R_{sp}). The rule is:

$$N_{px(100040ydngp)} = R_{sp(129990y2ngp)} \tag{48.4}$$

Example: AT--*you* (fem.)

Attributes y, n, g, and p are dependent variables, k and c are independent variables. Personal pronouns are definite (d=2) by nature. Compounding is after Pattern 2. This class is used to generate kernel sentences of the form $N_{sp} = R_{sp}$ which is interpreted "N_{sp} is identical to R_{sp}."

Class 5 consists of a prepositional phrase (X_p). The rule is:

$$N_{px(100050ydngp)} = X_{p(119990y00009)} \tag{48.5}$$

Example: BGN HMLK--*in the king's garden*

Attributes k, c, and r are independent variables. Attribute y is a dependent variable. Compounding is after Pattern 1. This class is used to generate kernel sentences of the form $D(N_{sp}) = X_p$ which is interpreted "N_{sp} possesses the time/space/quality dimension the value of which is defined by X_p." See sentence 23 for an example.

2.2.3.5.46 Direct-Object Verb-Modifying Phrase (V_{ma})

The direct-object verb-modifying phrase modifies Class 3 verbs. These verbs require a direct object which may be a pronominal suffix (R), a direct object pronoun phrase (R_o), or an object phrase (N_{op}). The phrase also may have certain optional adverb phrases (D_p). There are three classes of this phrase. Class 1 consists of a pronominal suffix as the direct object. It is used in classical Hebrew only. The rule is:

$$V_{ma(10001000ngp03)} = R_{(10003000ngp)} + R_{p(9499909)} \qquad (49.1)$$

Example: (KTB)*W SM--(he wrote) it there*

In Class 2 the direct object is a pronoun phrase. It is used when the direct object has been previously named. The rule is:

$$V_{ma(10002000ngp03)} = R_{o(10001092ngp)} + D_{p(9499909)} \qquad (49.2)$$

Example: (KTB)*AWTM SM HYWM--(he wrote) them there today*

See sentences 6a, and 10 for examples of the structure.

In Class 3 the direct object is named; the phrase consists of an object phrase. The rule is:

$$V_{ma(10003000ngp03)} = D_{p(9499909)} + N_{op(11999099ngp)} + D_{p(9499909)} \qquad (49.3)$$

Example: (KTB)*AT HCPR SM--(he wrote) the book there*

See sentences A, 5, 6 and 8 for examples of the structure.

In all classes, there are no dependent variables. The adverb phrases, when present, may be compounded after Pattern 4.

2.2.3.5.47 Indirect-Object Verb-Modifying Phrase (V_{mb})

The Indirect-Object Verb-Modifying Phrase modifies Class 4 verbs. These verbs require a direct object and an indirect object to complete their meaning. The direct object may be a pronominal suffix (R), a direct object pronoun phrase (R_o), or an object phase (N_{op}). The indirect object is an indirect phrase (N_{ip}). In addition the verb modifying phrase may contain optional adverb phrases (D_p). There are three classes of this phrase. Class 1 is used in classical Hebrew when the direct object is previously named; the direct object is a pronominal suffix. The rule is:

$$V_{mb(10001000ngpr4)} = R_{(10003000ngp)} + D_{p(9499909)} + N_{ip(11999090000r)} + D_{p(9499909)} \qquad (50.1)$$

Example: (NTN)*W LYLDH HYWM--(he gave) it to the girl today*

Class 2 is used when the direct object is previously named; the phrase has an object pronoun phrase as the direct object. See sentence 12 for an example of the structure. The rule is:

$$V_{mb(10002000ngpr4)} = D_{p(9499909)} + R_{o(11991092ngp)} + N_{ip(11999090000r)} + D_{p(9499909)} \tag{50.2}$$

Example: (NTN) *AWTM LYLDYM SM--(he gave) them to the children there*

Class 3 is used when the direct object is named; the phrase has an object phrase as the direct object. The rule is:

$$V_{mb(10003000ngpr4)} = D_{p(9499909)} + N_{op(11999099ngp)} + N_{ip(11999090000r)} + D_{p(9499909)} \tag{50.3}$$

See sentences 10 and 12 for examples. Attribute r is a dependent variable; its value determines the preposition in N_{ip}. All other attributes are independent variables as indicated.

2.2.3.5.48 Discourse Verb-Modifying Phrase (V_{mc})

The discourse verb-modifying phrase modifies Class 7 verbs and contains optional adverbs, direct object, and indirect objects, and a discourse clause (K_d). There are four classes of this phrase. Class 1 is used (classical Hebrew only) when the verb has a previously named direct object; the direct object is a pronominal suffix. The rule is:

$$V_{mc(10001000ngp07)} = R_{(10003000ngp)} + D_{p(9499909)} + K_{d(1199909)} \tag{51.1}$$

Class 2 is used when the verb has a previously named direct object: the direct object is an object pronoun. The rule is:

$$V_{mc(10002000ngp07)} = R_{o(11991092ngp)} + D_{p(9499909)} + K_{d(1199909)} \tag{51.2}$$

Class 3 is used when the verb has a direct object not previously named. The rule is:

$$V_{mc(10003000ngp07)} = D_{p(9499909)} + N_{op(11999099ngp)} + D_{p(9499909)} + K_{d(1199909)} \qquad (51.3)$$

See sentences 26a, 26b, and 26c for examples.

Class 4 is used when the verb has no direct object. The rule is:

$$V_{mc(10004000ngp07)} = D_{p(9499909)} + K_{d(1199909)} \qquad (51.4)$$

In all classes, all attributes are independent variables. The adverb phrase, when present, may be compounded after Pattern 4, other symbols (except R and K_d) may be compounded after Pattern 1.

The syntax of discourse verbs should be studied further. Some verbs may govern an object with a preposition. This present classification does not define how discourse verbs govern an object.

2.2.3.5.49 Double-Accusative Verb-Modifying Phrase (V_{md})

The double-accusative verb-modifying phrase modifies Class 8 verbs and contains two accusatives. The first accusative may be a pronominal suffix (R), an object pronoun (R_o), or an object phrase (N_{op}); the second accusative is a noun phrase (N_p). There are three classes of this phrase.

Class 1 is used (classical Hebrew only) when the verb has a previously named direct object; the direct object is a pronominal suffix. The rule is:

$$V_{md(10001000ngp08)} = R_{(10003000ngp)} + D_{p(9499909)} + N_{p(11991099999)} + D_{p(9499909)} \tag{52.1}$$

Example:

OSM ZHB-----he made them of gold

Class 2 is used when the verb has a previously named direct object. The rule is:

$$V_{md(10002000ngp08)} = D_{p(9499909)} + R_{o(11991092ngp)} + N_{p(11991099999)} + D_{p(9490909)} \tag{52.2}$$

Example:

OSH *AWTHM ZHB-----he made them of gold*

Class 3 is used when the verb has a direct object no previously named. The rule is:

$$V_{md(10003000ngp08)} = D_{p(9499909)} + N_{op(11999099ngp)} + N_{p(11991099999)} + D_{p(9499909)} \tag{52.3}$$

Example:

OSH *AT HKRBYM ZHB---he made the cherubim of gold*

In all classes, no attributes are dependent variables. The adverb phrases may be compounded after Pattern 4, all others (except R) may be compounded after Pattern 1.

2.2.3.5.50 The Verb Modifying Phrase (V_m)

The verb modifying phrase modifies a verb, infinitive, or participle. There are eight classes of this phrase, one for each verb class.

Verb Class 1, copulative verbs, is modified by a copulative phrase (N_{px}) and by optional adverb phrases. The rule is:

$$V_{m(10001000ngp01)} = D_{p(9499909)} + N_{px(11999099ngp)} + D_{p(9499909)} \qquad (53.1)$$

Example:

(HWA) HYLD ASR AWKL TPWXYM SM---*(he is) the boy who eats apples there*

See sentences 1, 2, and 23 for examples of the structure. Attributes n, g and p are dependent variables; k, c, and y are independent variables throughout. Attribute d is an independent variable for N_{px}. The adverb phrases may be compounded after Pattern 4, the copulative phrase after Pattern 1.

Class 2 verbs (intransitive) require neither direct object nor indirect object. They may be modified by an optional adverb phrase. The rule is:

$$V_{m(10002000ngp02)} = D_{p(9490909)} \qquad (53.2)$$

Example:

(YSB) SM OL HKSA HYWM---*(he sat) there on the chair today*

See sentences 3 and 7 for examples of the structure.

Class 3 verbs (transitive) are modified by a direct object verb modifying phrase (V_{ma}). The rule is:

$$V_{m(10003000ngp03)} = V_{ma(1000900099903)} \qquad (53.3)$$

For examples see Section 2.2.3.5.46, and sentences A, 5, 6, and 8.

Verb Class 4 is modified by an indirect object verb modifying phrase (V_{mb}). The rule is:

$$V_{m(10004000ngpr4)} = V_{mb(10009000999r4)} \qquad (53.4)$$

For examples see Section 2.2.3.5.47 and sentences 11 and 12. Attribute *r* is a dependent variable, its value determines the preposition associated with the indirect object.

Verb Class 5 takes a direct object with a preposition which contributes to the meaning of the verb. Thus the verb modifying phrase is a prepositional phrase (X_p). The rule is:

$$V_{m(10005000ngpr5)} = D_{p(9490909)} + X_{p(11999090000r)} + D_{p(9499909)} \tag{53.5}$$

Example:

(S"Q) *BKDWR HYWM---(he played)* *with the ball today*

See sentences A, 4, 7, and 9 for examples of the structure.

Verb Class 6 requires an infinitive phrase (N_v) to complete the meaning. The verb modifying phrase consists of an infinitive phrase and optional adverb phrases and prepositional pronouns. The rule is:

$$V_{m(10006000ngp06)} = D_{p(9499909)} + P_{(100010000001)} + N_{v(100090000099)} + D_{p(9499909)} \tag{53.6}$$

Example:

R&YTY LLKT *HBYTH--I wanted* *to go home*

See sentences 5, 7, and 26a for examples of the structure.

Class 7 verbs are modified by a discourse verb modifying phrase (V_{mc}). The rule is:

$$V_{m(10007000ngp07)} = V_{mc(1000900099907)} \tag{53.7}$$

See sentences 26a, 26b, and 26c for examples of the structure.

Class 8 verbs are modified by a double accusative verb modifying phrase (V_{md}). The rule is:

$$V_{m(10008000ngp08)} = V_{md(1000900099908)} \tag{53.8}$$

For examples see Section 2.2.3.5.49

2.2.3.5.51 Objective Relative Clause Verb Modifying Phrase (V_{mr})

Relative clauses contain a relative pronoun and a verb phrase. When the relative pronoun is the subject of the verb, the verb modifying phrase has the same structure as the regular verb modifying phrase (V_m). But when the relative pronoun is the object of the verb the structure is different. The following sections describe the structure of objective relative clause verb modifying phrases. The key difference between the objective relative clause verb modifying phrase and the regular verb modifying phrase is that the former contains no direct object. There are five classes of this phrase, one for each applicable verb class. For verb Class 1, the rule is:

$$V_{mr(10001000ngp01)} = D_{p(9499909)} \tag{54.1}$$

For verb Class 3, the rule is:

$$V_{mr(10002000ngp03)} = D_{p(9499909)} \tag{54.2}$$

See sentences 6a and 10 for examples.

For verb Class 4, the rule is:

$$V_{mr(10003000ngp04)} = V_{ma(10009000ngp03)} \tag{54.3}$$

For verb Class 5, the rule is:

$$V_{mr(10004000ngpr5)} = D_{p(9499909)} \tag{54.4}$$

For verb Class 8, the rule is:

$$V_{mr(10005000ngp08)} = V_{mb(10009000ngp04)} \tag{54.5}$$

Verb Classes 2, 6, and 7 do not take a direct object and are therefore not included in this phrase.

2.2.3.5.52 Indirect Relative Clause Verb Modifying Phrase (V_{mi})

In relative clauses containing verbs that take an indirect object (Verb Class 4), the relative pronoun may represent the indirect object. For example:

SLW NTN *AT HCPR*
(literally: who to him he gave the book)
(translated: to whom he gave the book)

The indirect relative clause verb modifying phrase modifies the verb in such relative classes. There are three classes of this phrase.

Class 1 is used when the verb of the relative clause has a previously named direct object (classical Hebrew only). The rule is:

$$V_{mi(10001000ngpr4)} = R_{(10003000999)} + D_{p(9499909)} \tag{55.1}$$

Example:

(SLHM NTN)W HYWM---*(to whom(pl.) he gave) it today*

Class 2 is used when the verb of the relative clause has a previously named direct object. The rule is:

$$V_{mi(10002000ngpr4)} = R_{o(11991012999)} + D_{p(9499909)} \tag{55.2}$$

Example:

(SLHM NTN) *AWTM SM HYWM---(to whom (pl.) he gave) it there today*

Class 3 is used when the verb of the relative clause has a direct object not previously named. The rule is:

$$V_{mi(10003000ngpr4)} = D_{p(9499909)} + N_{op(11999099)} + D_{p(9499909)} \tag{55.3}$$

Example:

(SLHM NTN) *AT HCPR---(to whom (pl.) he gave) the book*

See sentences 11a and 11c for examples of the structure. In all cases for this phrase, attributes n, g, and p are dependent variables.

2.2.3.5.53 Predicate Phrase (V_p)

Predicate phrases serve as the predicate of a sentence. They consist of a single verb-tense phrase (V_a) and a verb modifying phrase (V_m), either simple or compounded. An optional adverb phrase (D_p) may precede the verb. There is one class of this phrase with two rules. For phrases using verbs of Class 1, the rule is:

$$V_{p(100010y0ngp01vit)} = D_{p(9499909)} + V_{a(100010y0ngp01vit99)} + V_{m(12999000ngp01)} \tag{56.1}$$

Example:

(HYLDYM) HYM YLD AXD WSLWS YLDWT---*(the children) are a boy and three girls*

Attributes n, g, and p are dependent variables for both verb and verb modifying phrase; attributes y, v, i, and t are dependent variables for the verb. The verb is not compounded, but the verb modifying phrase may be compounded after Pattern 2 as illustrated above.

For phrases using verbs other than Class 1, the rule is:

$$V_{p(100010y0ngpravit)} = D_{p(9499909)} + V_{a(100010y0ngpravit99)} + V_{m(11999000999ra)},\ a \neq 1 \qquad (56.2)$$

Example:

YSB OL HKSA BBYYT SM---*he sat on the chair in the house there*

In this case attributes y, n, g, p, v, i, and t are dependent variables for the verb only; attributes r and a are dependent variables for both the verb and the verb modifying phrase (where $a \neq 1$). Attributes n, g, and p are independent variables for the verb modifying phrase, and the phrase (V_m) may be compounded after Pattern 1. Illustrations of this constituent may be found in almost every example sentence.

2.2.3.5.54 Objective Relative Clause Verb Phrase (V_{rb})

In objective relative clauses the relative pronoun is the direct object of the verb and the verb modifying phrase has no direct object. These verb modifying phrases (V_{mr}) are described in Section 2.2.3.5.51. The rule for the objective relative clause verb phrase is:

$$V_{rb(100010y0ngpravit)} = V_{a(100010y0999ravit99)} + V_{mr(11999090ngpra)} \qquad (57.1)$$

See sentences 6a and 10 for examples.

2.2.3.5.55 Indirect Relative Clause Verb Phrase (V_{ri})

In indirect relative clauses, the relative pronoun is the indirect object of the verb and the verb modifying phrase has no indirect object. These verb modifying phrases (V_{mi}) are described in Section 2.2.3.5.52. The structure of the indirect relative clause verb phrase is

$$V_{ri(100010y0ngpr4vit)} = V_{a(100010y0999r4vit99)} + V_{mi(11999090ngpr4)} \qquad (58.1)$$

$$V_{ri(100010y0ngpr5vit)} = V_{a(100010y0999r5vit99)} + Z_{(11991090ngpr)} \qquad (58.2)$$

See sentences 11a and 11c for examples of the structure.

2.2.3.5.56 Infinitive Construct Phrases (N_V)

Infinitive phrases serve as verbal nouns.[36] The infinitive emphasizes the deed rather than the doer, in contrast to the participle (verbal noun) which emphasizes the doer. The infinitive may have a named subject, and it must have a verb modifying phrase of the same class as the equivalent finite verb.

Example:

> BYWM *OSWT YHWH ALWHYM AR& WSMYYM* (Gen. 2:4)---
> *In the day of Yahweh-God's making the earth and heavens*

In the example, *Yahweh-God* is the named subject, and the object of the deed (making) is *earth and heavens.*

Infinitive phrases have the same attributes as nouns (number, gender, person), however, these attributes are all ambiguous for the infinite. The infinitive construct (Y) and the verb modifying phrase each have additional attributes, some of which are required to agree (class, and preposition class), but these attributes are not sensitive to the external context of the phrase. There are three classes of infinitive construct phrase: (1) the indefinite infinitive construct phrase, in which the subject is not named, (2) the pronoun suffix infinitive construct phrase, in which the subject is named by a pronominal suffix attached to the infinitive and (3) the definite infinitive construct phrase, in which the subject of the deed is named by a subject phrase (N_{sp}).

The infinitive construct phrase may serve in a noun phrase as outlined previously in Section 2.2.3.5.42. In this capacity the infinitive construct phrase may be found as subject of a verb, genitive of a construct noun (example above), and object of a preposition.

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[36] Further study should be made of the use of the infinitive construct in its use as subject of verbs, object of verbs, and object of prepositions.

Infinitive construct phrases are negated with a Class 3 negative (LBLTY) before the infinitive construct (Y).

In Class 1 the infinitive construct phrase has no named subject of the deed.

Example:
LWA ADO *&AT WBWA* (I Kings 3:7)---*I know not to go out or come in*

The rule is:

$$N_{v(100010y000ra)} = Y_{(100093y0000ra)} + V_{m(11999090999ra)} \qquad (59.1)$$

The infinitive must have a verb modifying phrase (V_m) which corresponds to the equivalent finite verb. In the above example, both infinitives are of Class 2 which require no verb modifying phrase. An example of an infinitive phrase with a verb modifying phrase is

YMAN ADWM *NTWN AT-YSRAL OBWR BGBWLW* (Num.20:21)---
Edom refused to give Israel passage through his border.

In this example, the first infinitive (to give) is Class 8 which requires a double accusative verb modifying phrase. In the second accusative a second infinitive (to pass) appears in place of a noun, which infinitive also requires a verb modifying phrase. For further examples see sentences 1, 7, and 26a.

In Class 2 the infinitive construct phrase has a named subject expressed by a pronoun suffix attached to the infinitive.

Example:
YDOTY AT *HTRGZK ALY* (Isaiah 37:28)---*I know your raging against me.*

The rule is:

$$N_{v(100020y0000ra)} = Y_{(1000093y0000ra)} + R_{(10003000999)} + V_{m(11999090999ra)} \qquad (59.2)$$

In Class 3 the infinitive construct phrase has a named subject of the deed in the form of a subject phrase (N_{sp}).

Example:
LWA @WB *HYWT HADM LBDW* (Gen.2:18)---*Man's being alone is not good.*

The subject *man* is named in the phrase. The rule is:

(59.3)

$$N_{v(100030y0000ra)} = Y_{(100093y0000ra)}$$

$$+ N_{sp(11999099999)} + V_{m(11999090999ra)}$$

The deep structure derivation of this constituent is as follows:

$$\begin{tikzcd}
N_{sp} \arrow[drr] & + & V \arrow[dll] & + & V_m \arrow[d] & \\
Y \arrow[d] & + & N_{sp} \arrow[d] & + & V_m \arrow[d] & = N_v(\text{class } 3) \\
Y \arrow[d] & + & R \arrow[d] & + & V_m \arrow[d] & = N_v(\text{class } 2) \\
Y & + & * & + & V_m & = N_v(\text{class } 1)
\end{tikzcd}$$

Note that the subject of the "kernal" sentence is transformed from a nominative construction, that governs the verb, to a genitive construction governed by the infinitive construct. The transformation shifts emphasis from the subject of the action to the action itself.

2.2.3.5.57 The Infinitive Absolute Phrase (N_w)

Infinitives absolute may serve as nouns[37] while at the same time governing a direct or indirect object. An infinitive absolute phrase may serve as subject of a sentence.

Example:

AKWL TPWXYM HYA BRYA---*eating apples is healthy*

It may also serve as an object of a verb.

Example:

ANY AWHB AKWL TPWXYM---*I like eating apples*

The infinitive absolute governs a verb modifying phrase (V_m). The rule is:

(60.1)

$$N_{w(100010y0000ra)} = W_{(119993y0000ra)} + V_{m(10009000000ra)}$$

Negation is with a Class 3 negative (LBLTY), and the infinitive may be compounded after Pattern 1.

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[37] Further study should be made of the use of the infinitive absolute in its use as subject of verbs, object of verbs, and as imperatives. The use of the Infinitive Absolute Phrase is confined to Biblical Hebrew.

2.2.3.5.58 The Construct Participle Phrase (E_{pb})

The construct participle governs its object in the genitive.

Example:

AWKLY TPWXYM-----*eaters of apples*

It does not appear that verbs which do not take an object will be used as a construct participle. Likewise, it does not appear that construct participles are used in verbal noun expressions requiring indirect objects or modifying prepositional phrases. Therefore, it seems that only transitive verbs (Class 3) may appear as construct participles,[38] and these may appear only with a simple noun phrase as object. There are two classes of this phrase.

Class 1 is used when the participle has a named direct object. The rule is:

$$E_{pb(100010ydngpr31)} = G_{(119992y0ngp031)} + N_{pa(1199909d999)} \qquad (61.1)$$

Attributes y, n, q, and p are dependent variables for the participle (G), and d is a dependent variable for the noun phrase (N_{pa}). The participle is limited to the active voice. Negation is expressed with a Class 2 negative (AYN).

Class 2 is used when the participle has a previously named direct object. The rule is:

$$E_{pb(100020y2ngpr31)} = G_{(100092y0ngp031)} + R_{(10003000999)} \qquad (61.2)$$

Example:

QW@LYHM-------*their killers*

In this case the attributes are the same as above except that the phrase is always definite (d = 2), and the pronoun may not be compounded.

For the deep structure derivation of this constituent, see Section 2.2.3.5.59

2.2.3.5.59 The Absolute/Construct Participle Phrase (E_{pa})

The participle is a verbal noun and may serve the function of either a verb or a noun. As a verb it represents the present tense and governs objects in the same pattern as a regular finite verb. In this capacity the participle always appears in the absolute state, not in the construct. This verbal function of the participle is covered under the section on present tense verb phrases and is not under consideration here. This section deals with the use of the participle as a noun.

---

[38] Class 4 and 5 verbs are found in this construction also, but without the usual preposition following G.

As a noun, the participle represents a person or thing as being in the exercise of an activity. The emphasis is on the doer rather than the deed, in contrast with the infinitive which emphasizes the deed. As a verbal noun, it may govern an object in the same manner as a verb.

Example:

HAWKLYM AT HTPWXYM-----*Those eating the apples*

However, for those verb classes which take a direct object, the construct state of the participle (G) may govern the object.

Example:

AWKLY HTPWXYM-----*the eaters of the apples*

These two examples illustrate the two classes of participle phrases, (1) the absolute participle phrase, and (2) the construct participle phrase.

The absolute participle phrase is nearly identical in structure with the present tense verb phrase. However, this phrase appears in place of a noun, and in that context it must have a verbal noun meaning. The present tense verb phrase has its own structural context and meaning which cannot be confused with the participle phrase.

The participle phrase may stand in place of a noun (N). It may be either definite or indefinite.

Class 1 consists of an absolute participle phrase. The rule is:

$$E_{pa(100010ydngprav)} = E_{a(100092ydngprav009)} \quad V_{m(11999090999ra)} \tag{62.1}$$

Attributes y, d, g, and p are dependent variables for the participle (E); r and a are dependent variables for both the participle and the verb modifying phrase (V_m).

Class 2 consists of a construct participle phrase. The rule is:

$$E_{pa(100020ydngpr31)} = E_{pb(100090ydngpr31)} \tag{62.2}$$

The deep structure derivation of this constituent is as follows:

$$\begin{tikzcd}
N_{sp} \arrow[d] & +V \arrow[d] & +V_m \arrow[d] & & \\
R \arrow[d] & +V(pres) \arrow[d] & +V_m \arrow[d] & & \\
* & +E \arrow[d] & +V_m \arrow[d] & & = E_{pa(1)} \\
 & G \arrow[d] & +N_{pa} \arrow[d] & = E_{pb(1)} & \\
 & G & +R & = E_{pb(2)} & \left.\right\} = E_{pa(2)}
\end{tikzcd}$$

2.2.3.5.60 The Participle Phrase (E_p)

The participle phrase consists of an absolute/construct participle phrase. However, the participle does not have a dual inflection, therefore, a dual participle must be converted to the plural. The rules of of this section perform this conversion. The rules are:

$$E_{p(100010ydngp)} = E_{pa(100090ydngp999)}, \ n \neq 2 \tag{63.1}$$

$$E_{p(100010yd2gp)} = E_{pa(100090yd3gp999)} \tag{63.2}$$

2.2.3.5.61 The Possessive Independent Clause (S_{aa})

The possessive independent clause is an idiomatic construction for expressing possession. There are four classes of this clause. Class 1 consists of those clauses that emphasize the possessor. The rule is:

$$S_{aa(100010y0ngp00vit)} = X_{p(119990000001)} + V_{a(10010y0ng01vit99)} + N_{sp(12999099ngp)} + D_{p(9499909)}, \ t \neq 3 \tag{64.1}$$

Example:

LYLDH HYH HCPR HYWM---*the girl (!) had the book today*

See sentence 101c for an example of the structure.

Class 2 consists of those clauses that emphasize the thing possessed. The rule is:

$$S_{aa(100020y0ngp01vit)} = N_{sp(12999099ngp)} + V_{a(100010y0ngp01vit99)} + X_{p(119990000001)} + D_{p(9499909)}, \quad t \neq 3 \tag{64.2}$$

Example:

HCPR HYH LYLDYM SM---*the children had the book (!) there*

Class 3 consists of those clauses in which no emphasis is expressed. The rule is:

$$S_{aa(1000030y0ngp00vit)} = V_{a(100010y0ngp01vit99)} + X_{p(119990000001)} + N_{sp(12999099ngp)} + D_{p(9499909)}, \quad t \neq 3 \tag{64.3}$$

Example:

HYH LYLDWT CPR-----*the girls had a book*

In all cases the verb is the copulative. The possessor is expressed by X_p which may be compounded after Pattern 1, and which is limited to the preposition L (r=1). The thing possessed is expressed by N_{sp} which may be compounded after Pattern 2. Attributes *n*, *g*, and *p* are dependent variables for the verb and the thing possessed (N_{sp}).

In the special case of present tense, active voice, indicative mood, the copulative is usually expressed by the particle YS or its negative AYN.

Examples:

(YS)LYLD TPWX----*the boy has an apple*
AYN LYLDH CPR----*the girl does not have a book*

The rules are:

$$S_{aa(10004000ngp00113)} = U_{(9000300)} + X_{p(119990000001)} + N_{sp(12999099ngp)} + D_{p(9499909)} \tag{64.4}$$

$$S_{aa(10004010ngp00113)} = L_{(100012)} + X_{p(119990000001)} + N_{sp(12999099ngp)} + D_{p(9499909)} \tag{64.5}$$

The particle YS is optional, however it is usually used in common practice. See sentences 101a and 101b for examples of the structure.

2.2.3.5.62 The Definite Independent Clause (S_{ab})

The Definite Independent Clause has a named subject within the structure of the clause.

Examples:

HYLD AKL AT HTPWX-----*the boy ate the apple*
HYA AKLH AT HTPWX-----*she ate the apple*

The subjects (the boy, she) are named, thus the clause is called definite--because the subject is named, not because the subjects have the attribute of definiteness. The rule is:

$$S_{ab(100010y0ngp00vit)} = N_{sp(12999099ngp)} + V_{p(119990y0ngp99vit)} \tag{65.1}$$

Attributes *n*, *g*, and *p* are dependent variables for subject phrase and verb phrase; *y*, *v*, *i*, and *t* are dependent variables for the verb phrase only. The noun phrase may be compounded after Pattern 2, the verb phrase after Pattern 1. See sentences A, 1, 2, and 4 for examples.

The above rule covers the general case for the definite independent clause. However, in the special case of the present tense, active voice, indicative mood, verb Class 1 (copulative), classical Hebrew only, the definite independent clause may be expressed with the word *YS* before the subject in positive declarations.

Example:

YS YHWH BMQWM HZH (Gen.28:16)---*The Lord is in this place*

The rule is:

$$S_{ab(10002000ngp00113)} = U_{(9000300)} + N_{sp(10009009ngp)} + V_{p(11999000ngp01113)} \tag{65.2}$$

See sentence 1dd, 1ddd and 2b for examples of the structure.

Likewise, for *all* verb classes of the above special case, for both modern and classical Hebrew, the negative definite independent clause is expressed with the Class 2 negative (AYN) before the subject.

Example:

AYN HYLDWT YWSBWT OL HKCA---*The girls are not sitting on the chair*

The rule is:

$$S_{ab(10003010ngp00113)} = L_{(100012)} + N_{p(10001009ngp)} \tag{65.3}$$

$$+ V_{p(11999000ngp99113)}$$

See sentence le for an example of the structure.

However, when the subject is a pronoun, it may be suffixed to *YS*[39] and it is always suffixed to *AYN*.

Examples:

YSK AWKL TPWX------*You are eating an apple*
AYNYNY AWKL TPWX---*I am not eating an apple*

The rules are:

$$S_{ab(10004000ngp00113)} = U_{(1000300)} = R_{(10003000ngp)} \tag{65.4}$$

$$+ V_{p(11999000ngp99113)}$$

$$S_{ab(10005000ngp00113)} = L_{(100012)} = R_{(10003000ngp)} \tag{65.5}$$

$$+ V_{p(11999000ngp99113)}$$

In modern Hebrew, for all verb classes of the above special case, where some emphasis is desired and the subject of the verb is named, *YS* or *AYN* appears before the verb with a pronoun suffix which is in concord with the subject.

Examples:

HYLDWT YSNM YWSBWT OL HKCA---*The girls are sitting on the chair*
HYLDYM AYNM YWSBYM OL HKCA---*The boys are not sitting on the chair*

The rules are:

$$S_{ab(10006010ngp00113)} = N_{p(10001002ngp)} + L_{(100012)} \tag{65.6}$$

$$+ R_{(10003000ngp)} + V_{p(11999000ngp99113)}$$

---

[39] This structure is found in Biblical Hebrew, YSK MWSYO BYDY AT YSRAL (Jud.6:36); YSKM OWSYM XCD AT ADWNY (Gen.24:49). However, it is used modern Hebrew only for emphasis.

$$S_{ab(10006000ngp00113)} = N_{p(10001002ngp)} + U_{(1000300)} + R_{(10003000ngp)} + V_{p(11999000ngp99113)} \qquad (65.7)$$

Note that the subject noun is definite. See sentence lee for an example of the structure.

The deep structure derivation of this constituent is as follows:

$$\begin{tikzcd}
& N_{sp} \arrow[dl] \arrow[dr] & + V_p \arrow[dl] \arrow[dr] & & = S_{ab}(\text{class } 1) \\
N_p + \arrow[d] & U_3 + \arrow[d] & R + \arrow[d] & V_p(\text{pres.act.ind.}) \arrow[d] & = S_{ab}(\text{class } 7) \\
* + & U_3 + & R + & V_p(\text{pres.act.ind.}) & = S_{ab}(\text{class } 4).
\end{tikzcd}$$

$$\begin{tikzcd}
& N_{sp} \arrow[dl] \arrow[dr] & + V_p(\text{neg.}) \arrow[dl] \arrow[dr] & & \\
N_p + \arrow[d] & L_2 + \arrow[d] & R + \arrow[d] & V_p(\text{pres.act.ind.}) \arrow[d] & = S_{ab}(\text{class } 6) \\
* + & L_2 + & R + & V_p(\text{pres.act.ind.}) & = S_{ab}(\text{class } 5)
\end{tikzcd}$$

$$\begin{tikzcd}
N_{sp} + \arrow[dr] & V_1(\text{pres.act.ind.}) + \arrow[dl] \arrow[dr] & & N_{px} \arrow[d] & \\
U_3 + \arrow[d] & N_p + \arrow[d] & * + \arrow[d] & N_{px} \arrow[dl] & \\
U_3 + & N_p + & V_p & & = S_{ab}(\text{class } 2)
\end{tikzcd}$$

$$\begin{tikzcd}
N_{sp} \arrow[drr] & + & V_1(\text{neg.pres.act.ind.}) \arrow[dll] \arrow[drr] & & + & & N_{px} \arrow[d] \\
L_2 \arrow[d] & + & N_p \arrow[d] & + & * \arrow[d] & + & N_{px} \arrow[dll] \\
L_2 & + & N_p & + & V_p & & = S_{ab}(\text{class } 3)
\end{tikzcd}$$

2.2.3.5.64 Independent Clauses (S_a)

An independent clause is an expression of a complete thought and as such it serves as the governing element of a sentence. An independent clause may stand alone, whereas other clauses (dependent, relative, etc.) must appear in some syntactic relationship to the independent clause or one of its constituents. There are three classes of independent clauses described herein:

(1) the possessive independent clause,
(2) indefinite independent clause,
(3) the definite independent clause.

The rules are:

$$S_{a(100010y0ngp00vit)} = S_{aa(100090y0ngp00vit)} \tag{67.1}$$

$$S_{a(100020y0ngp00vit)} = S_{ac(100010y0ngp00vit)} \tag{67.2}$$

$$S_{a(100030y0ngp00vit)} = S_{ab(100090y0ngp00vit)} \tag{67.3}$$

See sentences 101a, 7, 23, A, 2, 3, and 4, for examples.

2.2.3.5.65 The Objective Relative Phrase (S_{ro})

The objective relative phrase modifies a relative pronoun in an objective relative pronoun clause. There are two classes of this phrase. In Class 1 the subject of the verb is not named.

The rule is:

$$S_{ro(1000010y0ngp)} = V_{rb(119990y0ngp99999)} \tag{68.1}$$

Example:

(S)AWTW AKL- ----*which he ate*

See sentence 10 for an example of the structure.

In class 2 the subject of the verb is named. The rule is:

(68.2)

$$S_{ro(100020y0ngp)} = N_{sp(12999099)}$$

$$+ V_{rb(119990y0ngp99999)}$$

Example:

(S)AWTW HYLD AKL-----*which the boy ate*

See sentences 6a and 10a for examples of the structure.

2.2.3.5.66 The Indirect Relative Phrase (S_{ri})

The indirect relative phrase modifies a relative pronoun in an indirect relative pronoun clause. There are two classes of this phrase. In Class 1 the subject of the verb is not named. The rule is:

(69.1)

$$S_{ri(100010y0ngpr)} = V_{ri(119990y0ngpr9999)}$$

Example:

(S)OLW YSB-----*on which he sat*

See sentence 11a for an example of the structure.

In Class 2 the subject of the verb is named. The rule is:

(69.2)

$$S_{ri(100020y0ngpr)} = N_{sp(12999099ngp)}$$

$$+ V_{ri(119990y0ngpr9999)}$$

Example:

(S)OLW HYLD YSB---*on which the boy sat*

See sentence 11c for an example of the structure.

2.2.3.5.67 The Relative Pronoun Clause (R_g)

The relative pronoun clause is introduced by a relative pronoun. The clause may modify a noun phrase in the attributive position or it may stand in place of a noun phrase. The relative pronoun clause has the same attributes as a noun. There are three classes of relative pronoun clauses:

(1) The subjective relative pronoun clause in which the relative pronoun is subject of the verb,

(2) the objective relative pronoun clause in which the relative pronoun is object of the verb, and

(3) the indirect relative pronoun clause in which the relative pronoun is the indirect object of the verb.

The rules are:

$$R_{g(100010ydngp)} = R_{(100041y0000)} + V_{p(11999090ngp00999)} \tag{70.1}$$

Example:
SAKL AT HTPWX-----*who ate the apple*

$$R_{g(100020ydngp)} = R_{(100041y0000)} + R_{o(100010y2ngp)} + S_{ro(10009090999)} \tag{70.2}$$

Example:
SAWTW AKL---------*which he ate*

$$R_{g(100030ydngp)} = R_{(100041y0000)} + Z_{(100010y0ngp)} + S_{ri(10009090999)} \tag{70.3}$$

Example:
SOLW YSB----------*on which he sat*

See sentences 12a, 10, and 11a respectively for an example of each class.

The deep structure derivation of this constituent is as follows:

$$\begin{tikzcd} N_{sp} \arrow[d] & + & V_p \arrow[d] & \\ R_4 & + & V_p & = R_g(\text{class } 1) \end{tikzcd}$$

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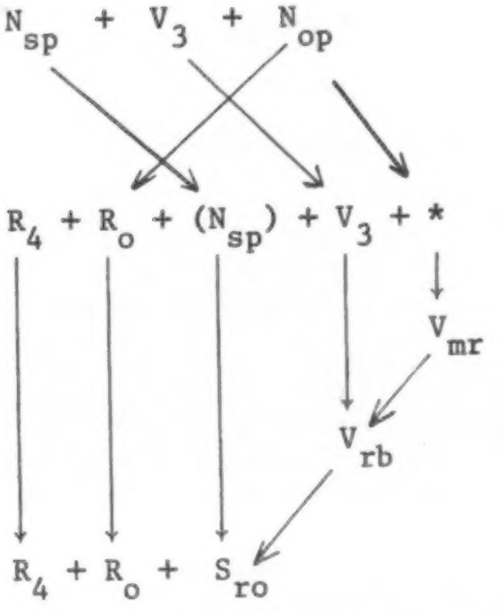
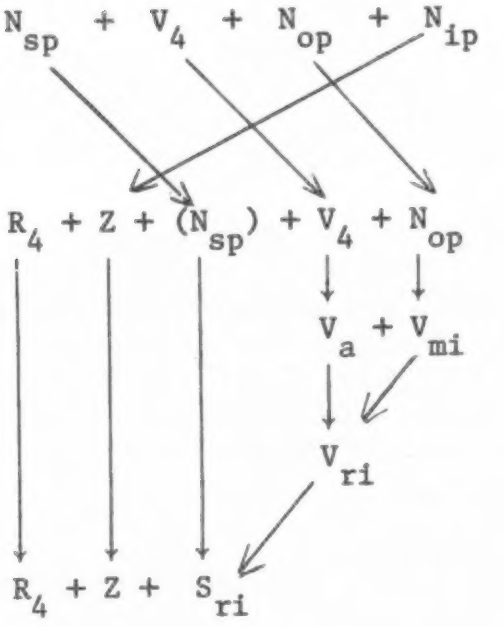

$N_{sp} + V_3 + N_{op}$
$R_4 + R_o + (N_{sp}) + V_3 + *$
V_{mr}
V_{rb}
$R_4 + R_o + S_{ro}$

$= R_g$(class 2)


$N_{sp} + V_4 + N_{op} + N_{ip}$
$R_4 + Z + (N_{sp}) + V_4 + N_{op}$
$V_a + V_{mi}$
V_{ri}
$R_4 + Z + S_{ri}$

$= R_g$(class 3)

2.2.3.5.68 The Subject-Object Dependent Clause (K_n)

The subject-object dependent clause is an independent clause introduced by a Class 3 conjunction (KY--*that*) or by a relative pronoun (S). The clause may be used as the object of verbs of discourse (Class 7) in the predicate of copulative sentences. Clauses introduced by KY may be used in place of the subject of some verbs. There are two classes. Class 1 (Biblical Hebrew only) is introduced by the conjunction KY. The rule is:

$$K_{n(100010y)} = C_{(1000300)} + S_{a(119990y099900999)} \tag{71.1}$$

Example:

KY AKL AT HTPWX-----*that he ate the apple*

Class 2 (modern Hebrew) is introduced by the relative S. The rule is:

$$K_{n(100020y)} = R_{(1000400)} + S_{a(119990y099900999)} \tag{71.2}$$

Example:

SHYLD AKL AT HTPWX---*that the boy ate the apple*

See sentences 26b and 26c for examples of the structure.

2.2.3.5.69 Circumstantial Dependent Clause (K_c)

Circumstantial dependent clauses express attending circumstances such as time, purpose, result, cause, and reason. The clauses are introduced by key words which identify them. There are four classes of circumstantial dependent clause treated here.

(1) time dependent clause
(2) purpose-result dependent clauses
(3) cause-reason dependent clauses, and
(4) the circumstantial dependent clause.

Class 1 contains time dependent clauses that express circumstantial time relationships. These clauses are introduced by Class 4 conjunctions (KASR--*when*, @RM--*before*, OD--*until*, AXR--*after*, etc.). These words express time relationships and are often classified as adverbs, but their structural function is that of a conjunction. The structure of the time dependent clause is:

$$K_{c(100020y)} = C_{(1000400)} + S_{a(119990y099900999)} \tag{72.1}$$

Example:

KASR AKL AT HTPNX---*when he ate the apple*

See sentence 7 for an example of the structure.

Class 2 consists of purpose-result dependent clauses that express circumstantial purpose or result relationship. These clauses are introduced by Class 5 conjunctions (LMON---*in order that,* BOBWR--*in order that).*[40] The rule is:

$$K_{c(100020y)} = C_{(1000500)} + S_{a(119990y099900999)}, \quad t=2,5 \tag{72.2}$$

The tense of the independent clause S_a is limited to future tenses only (t=2,5).

Example:

LMON[40] YWSB OL HKSA---*in order that he sit on the chair*

See sentence 7g for an example of the structure.

Class 3 contains cause-reason dependent clauses that express circumstantial cause or reason relationship. These clauses are introduced by Class 6 conjunctions (YON--*because,* OQB--*because*). The structure of the cause-reason dependent clause is:

$$K_{c(100030y)} = C_{(1000600)} + S_{a(119990y099900999)} \tag{72.3}$$

Example:

YON[41] AKL TPWX-----*because he ate an apple*

See sentence 23 for an example of the structure.

Class 4 consists of circumstantial clauses. A prepositional phrase may serve the same function as a dependent clause. In such cases it specifies accompanying circumstances.

Example:

BBWKR HYLD AKL AT HTPWX---*in the morning the boy ate the apple*

The rule is:

$$K_{c(100040y)} = X_{p(119990y00009)} \tag{72.4}$$

See sentences 8, 9, and 13 for examples of the structure.

2.2.3.5.70 Conditional Clauses (K_k)

Conditional clauses serve as the protasis of conditional sentences. There is one class of the clause with variation of structure due to tense and negation.

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[40] Modern Hebrew uses *KDY S* to introduce this clause. The rule must be corrected.

[41] Modern Hebrew uses *MPNY S* to introduce this clause. The rule must be corrected.

The past conditional clauses serve as the protasis of past conditional sentences. It consists of an independent clause (S_a) introduced by the particle LW--*if* (negative LWLY).

Example:
LW HYLD HYH @WB---*if the boy had been good*

The rules are:

$$K_{k(1000100000000001)} = U_{(1000400)} + S_{a(1199900099900911)} \tag{73.1}$$

$$K_{k(1000101000000001)} = U_{(1000500)} + S_{a(1199900099900911)} \tag{73.2}$$

The independent clause must be past tense indicative mood. It may be compounded after Pattern 1.

Future conditional clauses serve as the protasis of future conditional sentences. The clause consists of an independent clause (S_a) introduced by the particle AM--*if*.

Examples:
AM HYLD YHYH @WB----------*if the boy will be good*
AM HYLDH LWA THYH @WBH----*if the girl will not be good*

The rule is:

$$K_{k(100010y000000002)} = U_{(1000600)} + S_{a(119990y099900912)} \tag{73.3}$$

The independent clause must be future tense indicative mood. It may be compounded after Pattern 1. See sentences 7c, 7d, and 7e for examples of the structure.

2.2.3.5.71 Interrogative Clause (K_i)

There are five classes of interrogative clauses (1) the adverbial interrogative clause which asks the circumstances of a sentence; (2) the subject-pronoun interrogative clause which questions who or what is the subject of the verb; (3) the object-pronoun interrogative clause which questions who or what is the object of the verb; (4) the indirect object-pronoun interrogative clause, which questions who or what is the indirect object of the verb; and (5) the true-false interrogative clause.

The adverbial interrogative clause consists of an independent clause introduced by an interrogative adverb (Q).

Example:
MTY KTB AT HCPR?-----*when did he write the book?*

The rule is:

$$K_{i(100010y0ngp0)} = Q_{(1000900)} + S_{a(119990y000999)} \tag{74.1}$$

See sentences 1a, 7a, 7b, and 26a for examples of the structure.

The subject-pronoun interrogative clause consists of an interrogative pronoun and a verb phrase (V_p) for which the pronoun is the subject.

Example:
MY AKL AT HTPWX?------*who ate the apple?*

The rule is:

$$K_{i(100020y0ngp0)} = Q_{(1000500)} + V_{p(119990y0ngp0999)} \tag{74.2}$$

See sentence 2a for an example of the structure.

The objective-pronoun interrogative clause consists of an interrogative pronoun and an objective interrogative phrase (S_{qo}) of which the pronoun is the object of the verb.

Example:
MH KTB?-----*what did he write?*

The rule is:

$$K_{i(100030y0ngpr)} = R_{(1000500)} + S_{ro(100090y0ngpr)} \tag{74.3}$$

See sentence 6a for an example of the structure.

The indirect object-pronoun interrogative clause consists of an interrogative pronoun introduced by a preposition, and an object-interrogative phrase (S_{qo}), where the preposition governs the meaning of the verb.

Example:
OL MH HYLD YSB?---*upon what did the boy sit?*

The rule is:

$$K_{i(100040yngpr)} = P_{(10001000000r)} + R_{(1000500)} + S_{qo(10090y0ngpr)} \tag{74.4}$$

See sentence 11c for an example of the structure.

0E1 129

The true-false interrogative clause consists of an optional Class 1 interrogative adverb (H-) and an independent clause.

Example:

(H)KTB AT HCPR?---*did he write the book?*

The rule is:

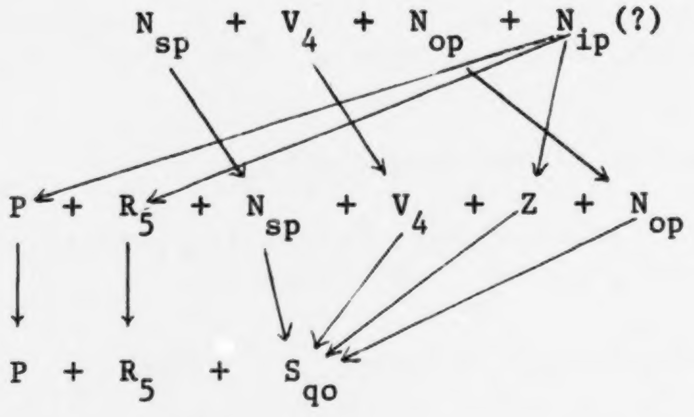
$$K_{i(100040y0ngpr)} = Q_{(9000100)} + S_{a(119990yngp00999)} \tag{74.5}$$

The deep structure derivation of this constituent is as follows:

$$\begin{tikzcd}
D_p(?) \arrow[d] & + & S_a \arrow[d] & \\
Q & + & S_a & = K_i(\text{class } 1)
\end{tikzcd}$$

$$\begin{tikzcd}
N_{sp}(?) \arrow[d] & + & V_p \arrow[d] & \\
R_5 & + & V_p & = K_i(\text{class } 2)
\end{tikzcd}$$

$$\begin{tikzcd}
N_{sp} \arrow[drr] & + & V_3 \arrow[drr] & + & N_{op}(?) \arrow[dllll] & \\
R_5 \arrow[d] & + & (N_{sp}) \arrow[d] & + & V_3 \arrow[dll] & \\
R_5 & + & S_o & & & = K_i(\text{class } 3)
\end{tikzcd}$$


$N_{sp} + V_4 + N_{op} + N_{ip}$(?)
$P + R_5 + N_{sp} + V_4 + Z + N_{op}$
$P + R_5 + S_{qo}$

$= K_i$(class 4)

2.2.3.5.72 The Discourse Clause (K_d)

The discourse clause modifies verbs of discourse. There are two classes of the discourse clause: (1) indirect discourse clause and (2) direct discourse clause.

The indirect discourse clause consists of an independent clause introduced by the conjunction KY (classical Hebrew) or by the relative pronoun S (modern Hebrew).

Example:

AMR $KTB AT HCPR---*he said that he wrote the book*

The indirect discourse clause is indentical in structure to the subject-object dependent clause (K_n).

The rule is:

$$K_{d(100010y)} = K_{n(100090y)} \qquad (75.1)$$

See sentences 26b and 26c for examples of the structure.

The direct discourse clause consists of a string of completed sentences bounded by quotation marks.

Example:

(AMR), "ANY KTBTY AT HCPR."---*(he said), "I wrote the book."*

The rule is:

$$K_{d(100020y)} = T_{(10004)} + T_{(10001)} + S_{c(119990y)} + T_{(10002)} \qquad (75.2)$$

See sentence 26a for an example of the structure. Discontinuous direct discourse is not included in the grammar at this time.

2.2.3.5.73 The Dependent Clause Sentence (S_d)

The dependent clause consists of an independent clause preceded or followed by a dependent clause. The rules are:

(76.1)

$$S_{d(100010y0000000it)} = K_{c(1199909)} + T_{(90003)} + S_{a(119990y0999009it)}$$

(76.2)

$$S_{d(100020y0000000it)} = S_{a(119990y0999009it)} + T_{(90003)} + K_{c(1199909)}$$

Class 2 is used when emphasis is placed on the dependency.

See sentences 7, 8, 9, and 13 for examples of the structure of Class 1, and sentence 23 for Class 2.

2.2.3.5.74 The Basic Sentence (S)

The basic sentence is the main constituent of the completed declarative sentence and the completed imperative sentence. It is found in the context

S.
S!

There are three classes of the basic sentence: (1) the simple sentence, (2) the dependent clause sentence, and (3) the conditional sentence.

In Class 1, the simple sentence consists of an independent clause only. This clause may be compounded after Pattern 1. There are no restrictions on the clause attributes. The rule is:

(77.1)

$$S_{(100010y0000000it)} = S_{a(119990y0999009it)}$$

See sentences A, 1, 2, etc., for examples.

Class 2 consists of a dependent clause sentence. The rule is:

(77.2)

$$S_{(100020y0000000it)} = S_{d(100090y000000it}$$

See sentences 7, 8, 9, and 23 for examples.

For Class 3, the past conditional sentence consists of a past conditional clause for a protasis and a past continuous tense independent clause for an apodosis. The future conditional sentence consists of a future conditional clause for a protasis, and a future tense independent clause for an apodosis. The rules are:

(77.3)

$$S_{(100030y0000000i1)} = K_{k(1199109000000001)} + T_{(90003)} + S_{a(119990y099909i4)}$$

(77.4)

$$S_{(100030y0000000i2)} = K_{k(1199109000000002)} + T_{(90003)} + S_{a(119990y099909i2)}$$

For conditional sentences in which the protasis is negated, K_k is negative (subscript y=1); for those in which the apodosis is negated, S_a is negated (subscript y=1).

See sentences 7c, 7d, and 7e for examples.

2.2.3.5.75 The Interrogative Sentence (S_i)

The interrogative sentence consists of an interrogative clause with optional dependent clauses. There are three classes. Class 1 consists of an interrogative clause with no dependent clauses. The rule is:

(78.1)

$$S_{i(100010y)} = K_{i(100090y09999)}$$

See sentences 1a, 2a, 6a for examples.

Class 2 consists of an interrogative clause with a preceding dependent clause. In this case emphasis, if any, is on the question. The rule is:

(78.2)

$$S_{i(100020y)} = K_{c(1199909)} + T_{(10004)} + K_{i(100090y09999)}$$

See sentence 7a for an example.

Class 3 consists of an interrogative clause followed by a dependent clause. In this case, emphasis is placed on the dependent clause. The rule is:

(78.3)

$$S_{i(100030y)} = K_{i(100090y)} + T_{(10004)} + K_{e(119990909999)}$$

See sentence 7b for an example.

2.2.3.5.76 The Completed Sentence (S_c)

The completed sentence is the initial constituent of the grammar. It consists of one of the three types of sentences of the language and the appropriate sentence ending punctuation mark. There are three classes of completed sentences: (1) the completed declarative sentence, (2) the completed interrogative sentence, and (3) the completed imperative sentence.

The completed declarative sentence consists of a basic sentence (S) followed by a period. The rule is:

$$S_{c(100010y)} = C_{(90008)} + S_{(100090y000000099)} + T_{(10006)} \qquad (79.1)$$

$$i=1,2,3$$

Compounding is not permitted. The completed declarative sentence may be in the indicative, subjunctive, or imperative mood. Nonemphatic imperative sentences are terminated with a period.

See sentences A, 1, 2, 3, etc., for examples.

The completed interrogative sentence consists of an interrogative sentence (S_i) followed by a question mark. The rule is:

$$S_{c(100020y)} = C_{(90008)} = S_{i(119990y)} + T_{(10005)} \qquad (79.2)$$

See sentences 1a, 7a, and 7b for examples.

The completed imperative sentence consists of a basic sentence in the imperative mood followed by an exclamation mark. The rule is:

$$S_{c(100030y)} = C_{(90008)} \quad S_{(100090y000000022)} + T_{(10007)} \qquad (79.3)$$

See sentence 1b for example.

This completes the description of the replacement rules; it also completes the formal description of the syntax grammar.

2.3 Examples and Illustrations

This section contains tree diagrams of Hebrew sentences that were produced by means of a computer using the computerized algorithms developed on this research project. They serve as examples and illustrations of the grammar rules of modern Hebrew syntax.

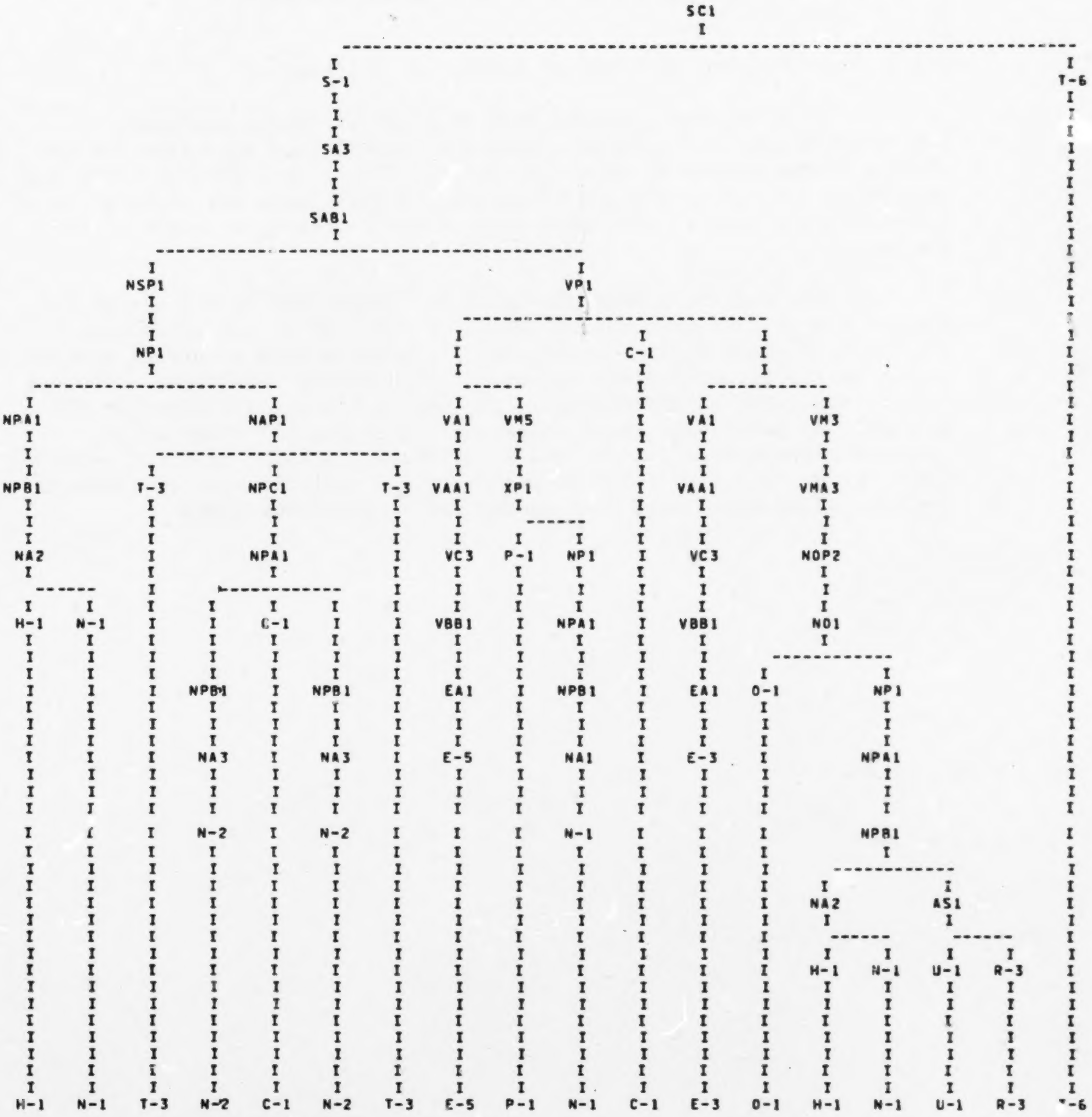
2.3.1 Tree Diagrams of Computer Generated Sentences

This section contains tree diagrams of Hebrew sentences generated by means of computer using the computerized algorithm for generating Hebrew sentences described in Part III of this report. They are referenced throughout the preceding text to illustrate the application of rules of the grammar. Reference numbers are in the upper right of the diagrams.

The sentences were generated to demonstrate to the use of the grammar and to test the grammar rules. A total of 47 sentences were generated of which 42 are correct and 5 contain errors requiring modification of the grammar rules. Some of the sentences illustrate classical options available in the grammar. The errors are usually noted on the diagram. In generating these sentences 111 of the 179 rules on non-terminal symbols were tested, and 41 of the 65 rules on terminal symbols were tested. These 65 rules define the class variations of 20 terminal symbols, 17 of which have been tested for at least one class.

EQUIVALENT ENGLISH SENTENCE-
THE CHILDREN, URI AND REBECCAH, ARE SITTING ON A CHAIR AND READING THEIR BOOKS. A

TREE DIAGRAM OF HEBREW SENTENCE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T-3
NPC1
T-3
VAA1
XP1
VAA1
VMA3
NA2
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VC3
P-1
NP1
VC3
NOP2
H-1
N-1
C-1
VBB1
NPA1
VBB1
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NPB1
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EA1
NPB1
EA1
O-1
NP1
NA3
NA3
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NPB1
NA2
AS1
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N-1
U-1
R-3
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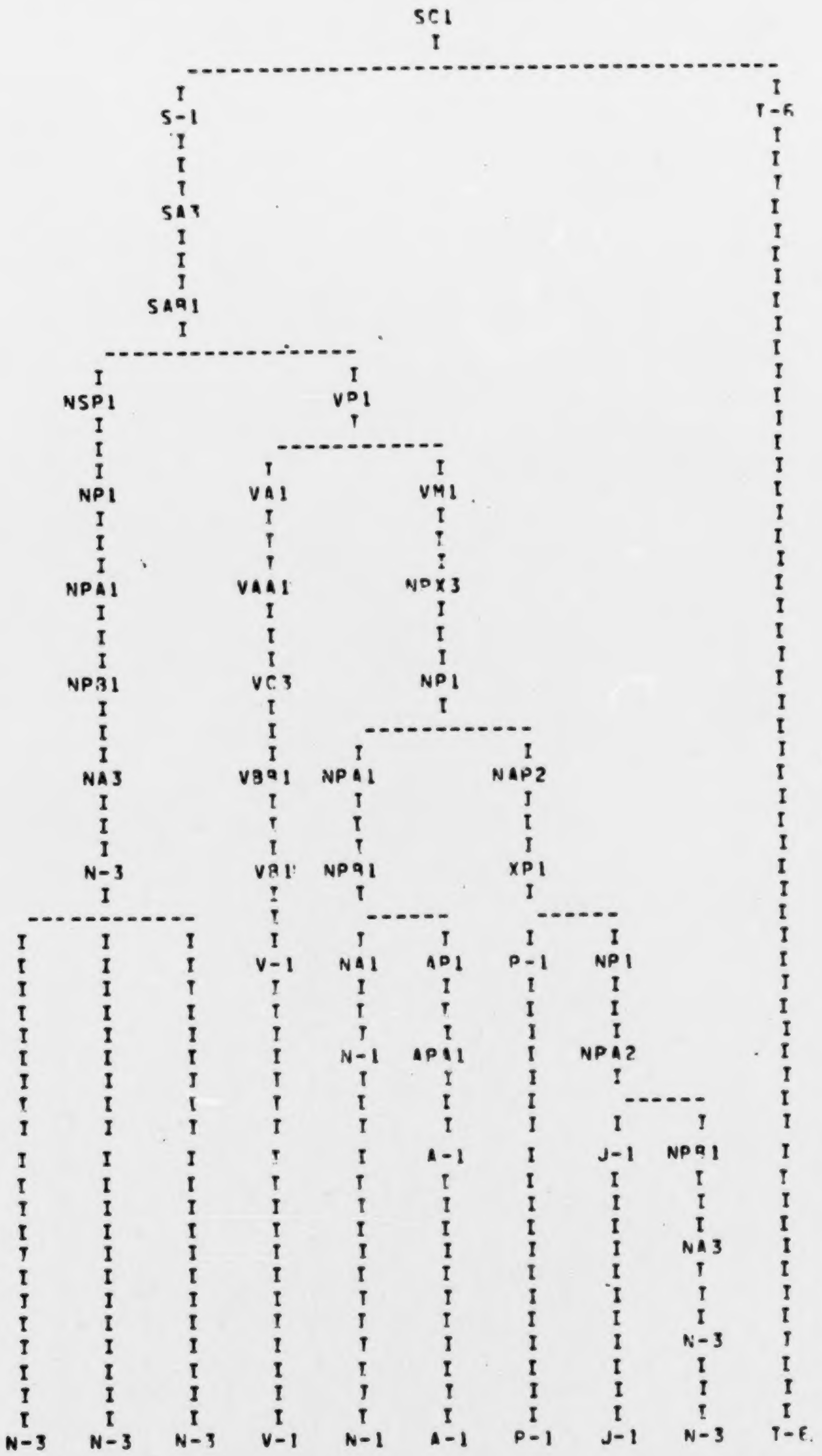
C-1
N-2
T-3
E-5
P-1
N-1
C-1
E-3
O-1
H-1
N-1
U-1
R-3
T-6

RESULTANT HEBREW SENTENCE-

HYLDYM, AWRY WRBKH, YWSBYM OL KYCA WQWRAYM AT HCPRYM SLHM.

EQUIVALENT ENGLISH SENTENCE-
CHAIM NACHMAN BIYALIK WAS A GREAT POET IN THE LAND OF ISRAEL. 1

TREE DIAGRAM OF HEBREW SENTENCE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J-1
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NA3
N-3
N-3
N-3
N-3
V-1
N-1
A-1
P-1
J-1
N-3
T-6

RESULTANT HEBREW SENTENCE-

XYYM NXMN BYALYQ HYH MSWRR GDWL BARZ YSRAL.

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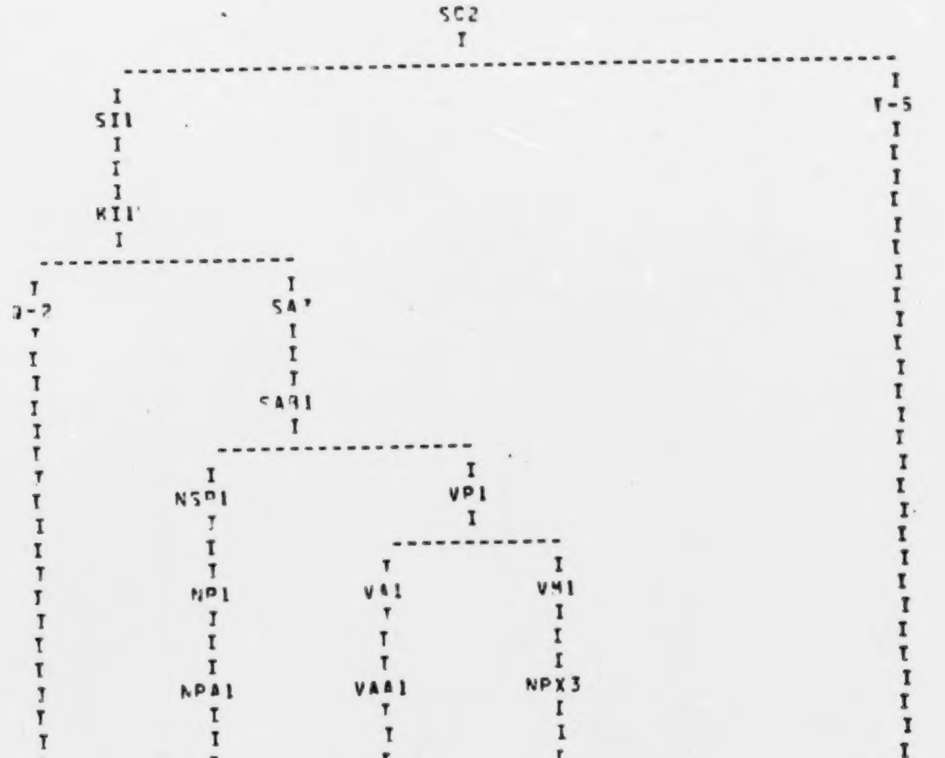
EQUIVALENT ENGLISH SENTENCE-
WAS CHAIM NAXMAN BIYALIK A GREAT POET IN THE LAND OF ISRAEL? 14

TREE DIAGRAM OF HEBREW SENTENCE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J-1
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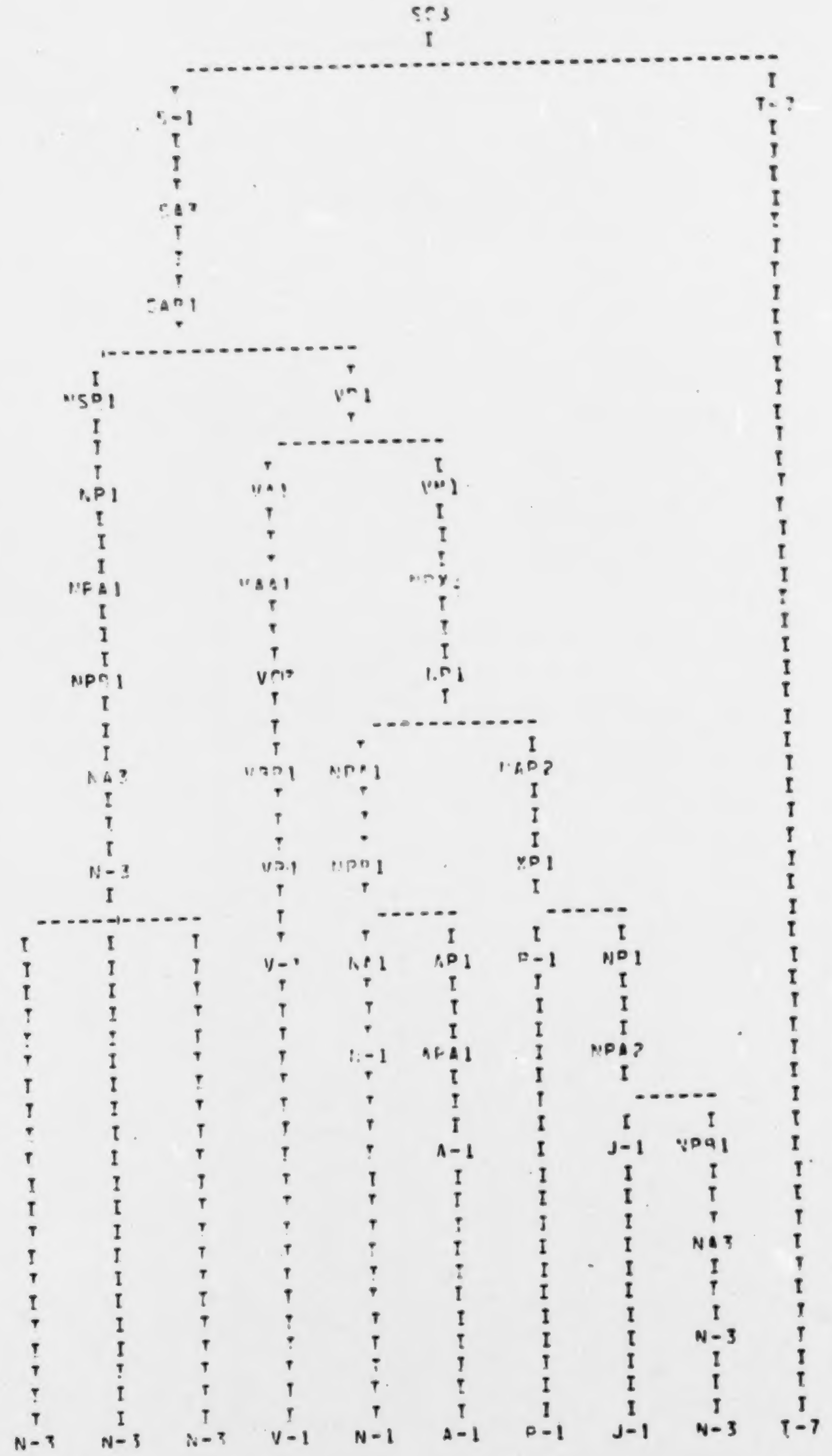
NA3
N-3
Q-2
N-3
N-3
N-3
V-1
N-1
A-1
P-1
J-1
N-3
T-5

RESULTANT HEBREW SENTENCE-

HAM XYYM NXMN BYALYQ HYH MSWRR GDWL BAR8 YSRAL?

```
EQUIVALENT ENGLISH SENTENCE-                                                       18
CHAIM NACHMAN BIYALIK BE A GREAT POET IN THE LAND OF ISRAEL!

 TREE DIAGRAM OF HEBREW SENTENCE
```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N-3
N-3
V-1
N-1
A-1
P-1
J-1
N-3
T-7

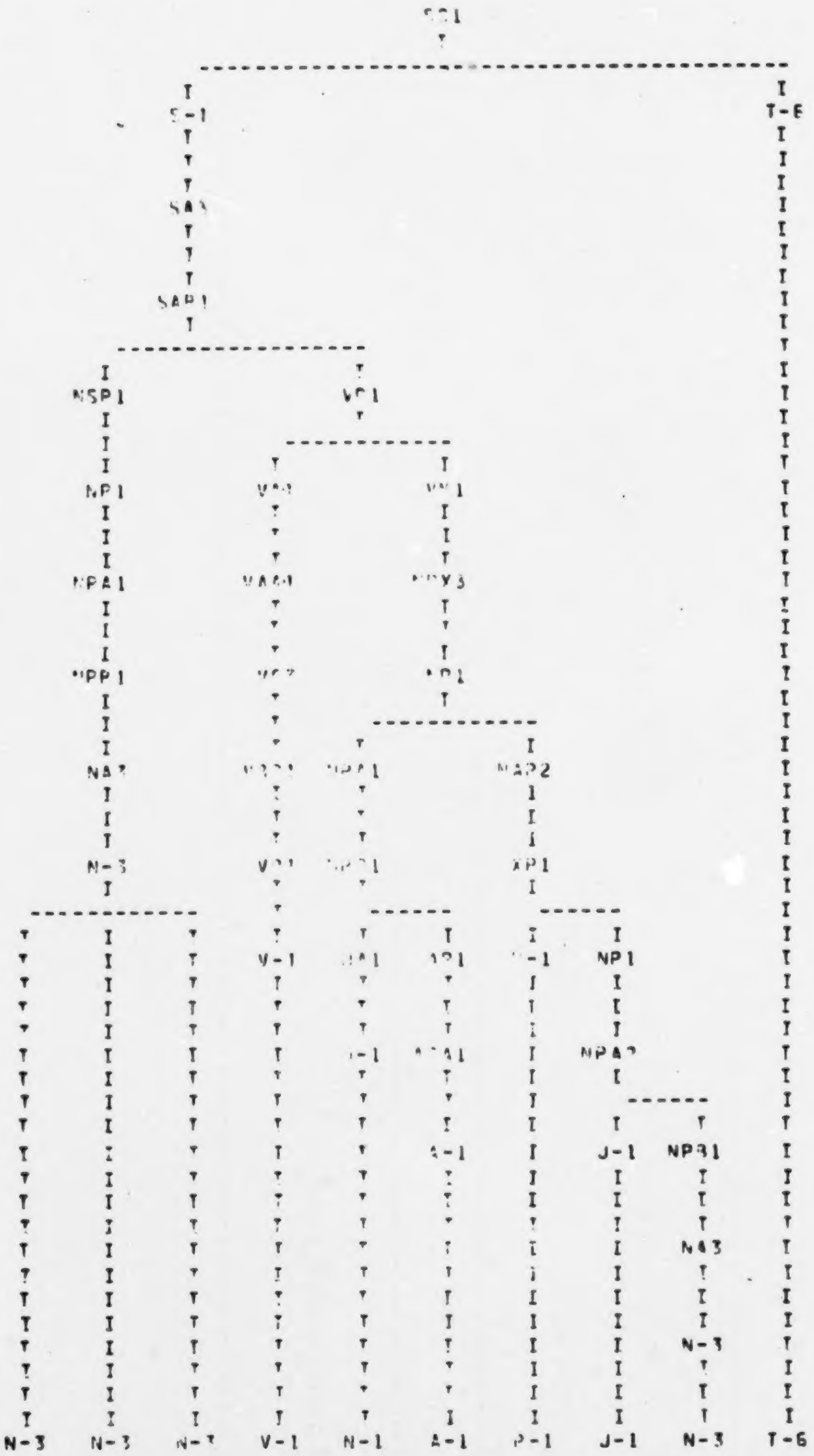
```
    RESULTANT HEBREW SENTENCE-

 XYYM NXMN BYALYQ HYH MSWRR GDWL BARZ YSRAL!
```

This illustrates the imperative sentence. The HYH is the imperative הֱיֵה.

```
EQUIVALENT ENGLISH SENTENCE-
CHAIM NACHMAN BIYALIK WILL BE A GREAT POET IN THE LAND OF ISRAEL.        1C

 TREE DIAGRAM OF HEBREW SENTENCE
```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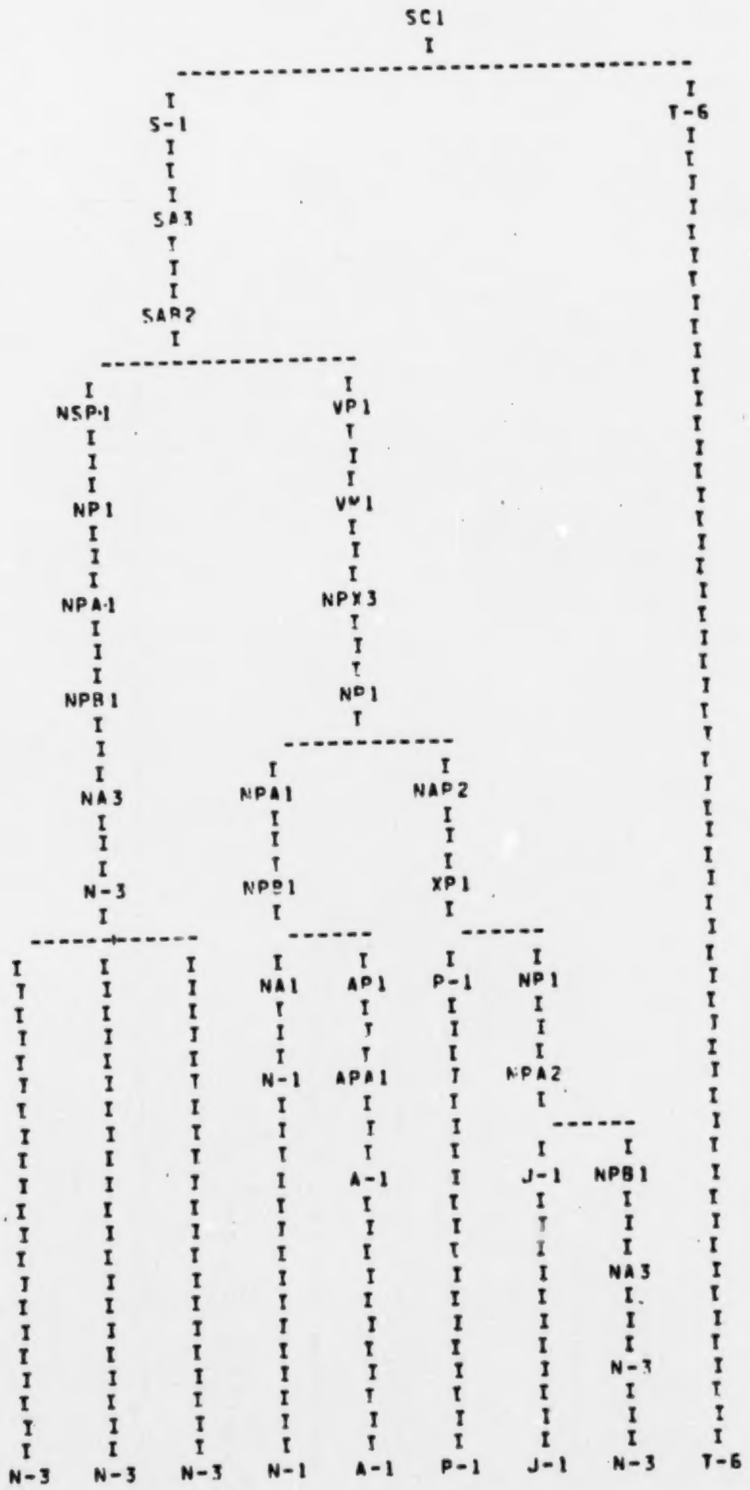
N-3
N-3
N-3
V-1
N-1
A-1
P-1
J-1
N-3
T-6

```
RESULTANT HEBREW SENTENCE-

XYYH NYMN BYALYQ YHYH MSVRR GDVL BARZ YSRAL.
```

EQUIVALENT ENGLISH SENTENCE-
CHAIM NACHMAN BIYALIK IS A GREAT POET IN THE LAND OF ISRAEL. 100

TREE DIAGRAM OF HEBREW SENTENCE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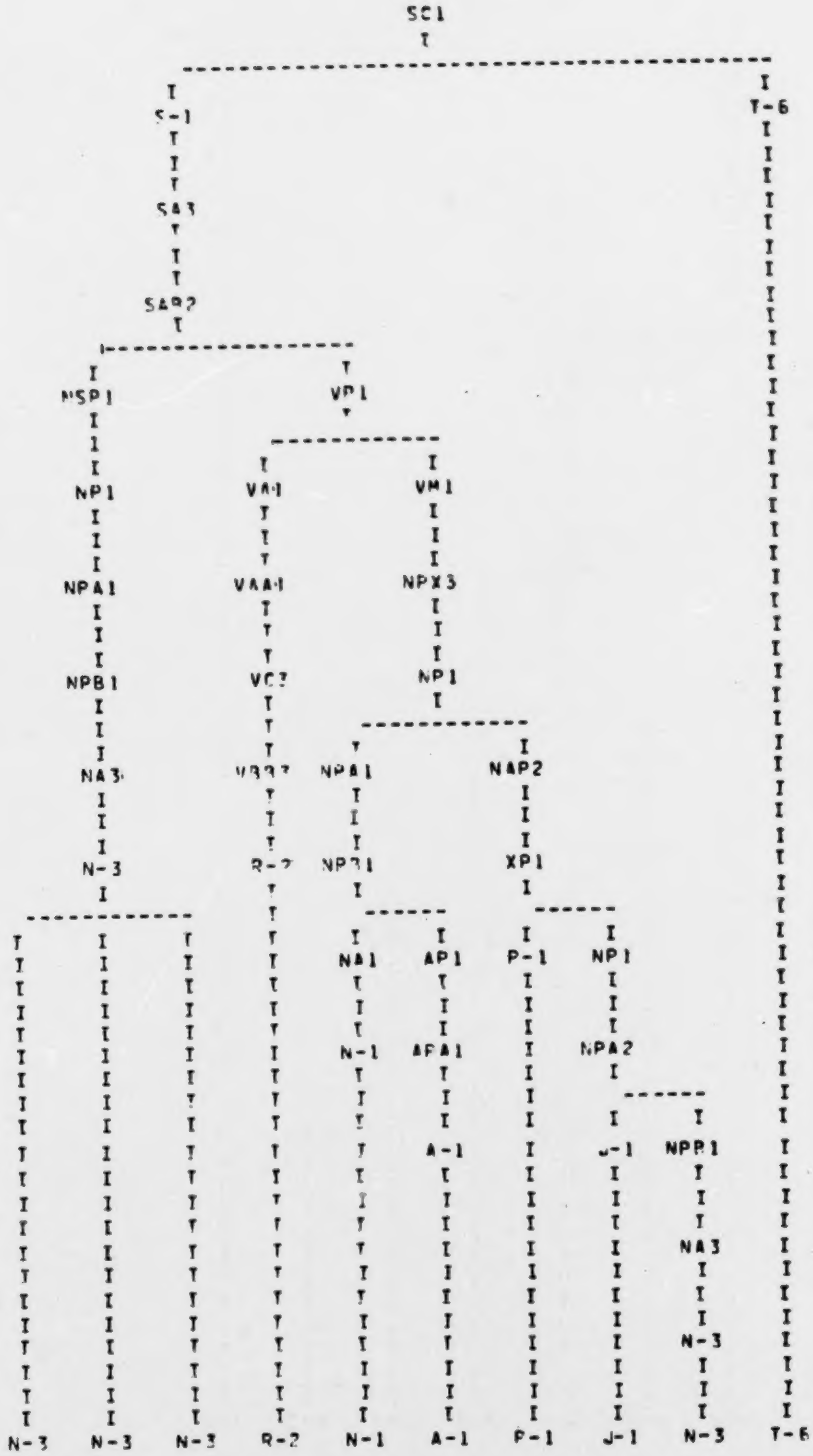
J-1
NPB1
NA3
N-3
N-3
N-3
N-3
N-1
A-1
P-1
J-1
N-3
T-6

RESULTANT HEBREW SENTENCE-

XYYM NXMN BYALYQ MSWRR GDWL BAR8 YSRAL.

EQUIVALENT ENGLISH SENTENCE-
CHAIM NACHMAN BIYALIK IS A GREAT POET IN THE LAND OF ISRAEL. 1000

TREE DIAGRAM OF HEBREW SENTENCE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VC2
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NA3
VB37
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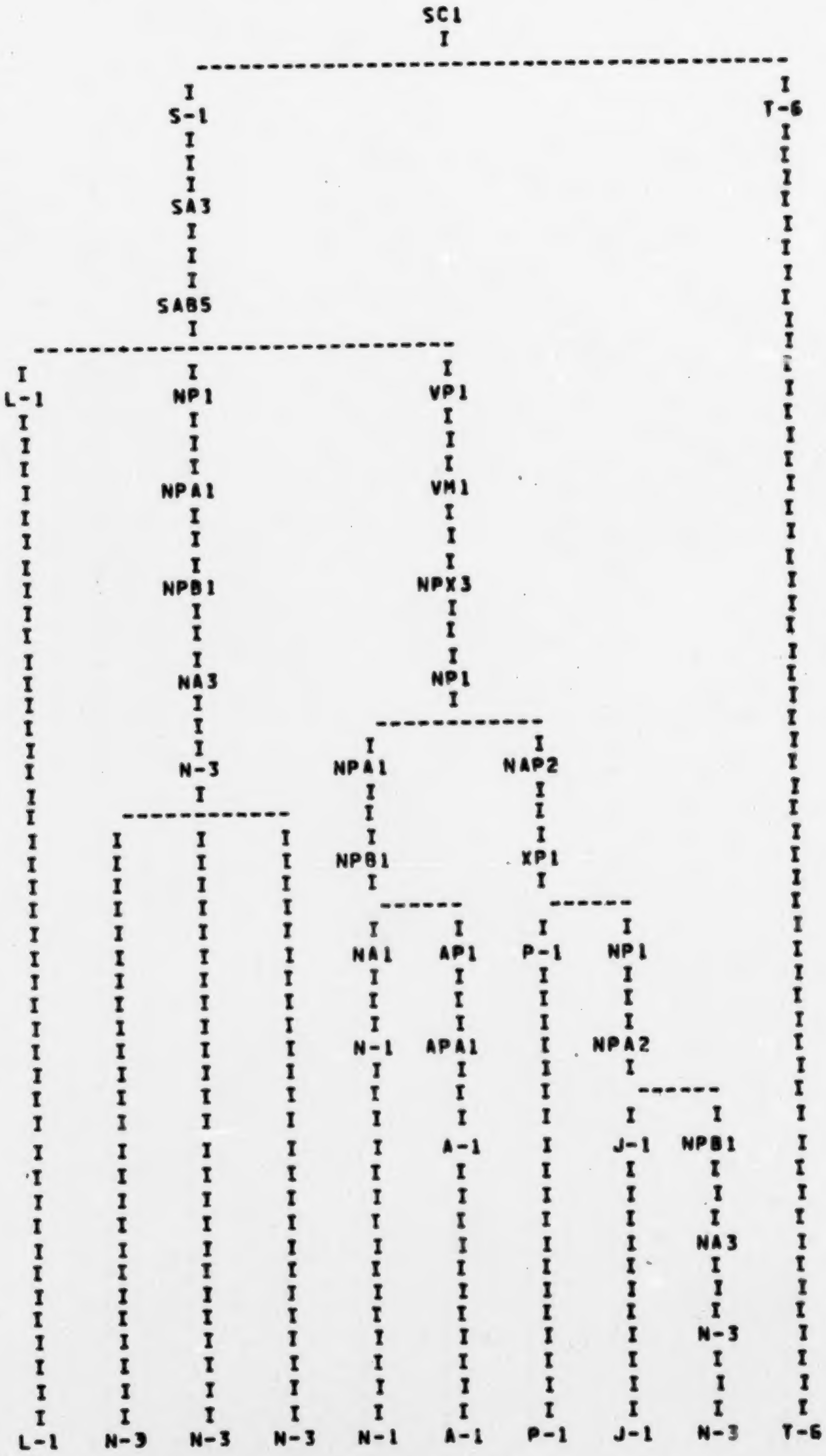
NAP2
N-3
R-2
NPB1
XP1
NA1
AP1
P-1
NP1
N-1
APA1
NPA2
A-1
J-1
NPB1
NA3
N-3
N-3
N-3
N-3
R-2
N-1
A-1
P-1
J-1
N-3
T-6

RESULTANT HEBREW SENTENCE-

XYYM NXMN BYALYQ HWA MSWRR GDWL BARZ YSRAL.

EQUIVALENT ENGLISH SENTENCE-
CHAIM NACHMAN BIYALIK IS NOT A GREAT POET IN THE LAND OF ISRAEL. 1E

TREE DIAGRAM OF HEBREW SENTENCE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AP1
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NP1
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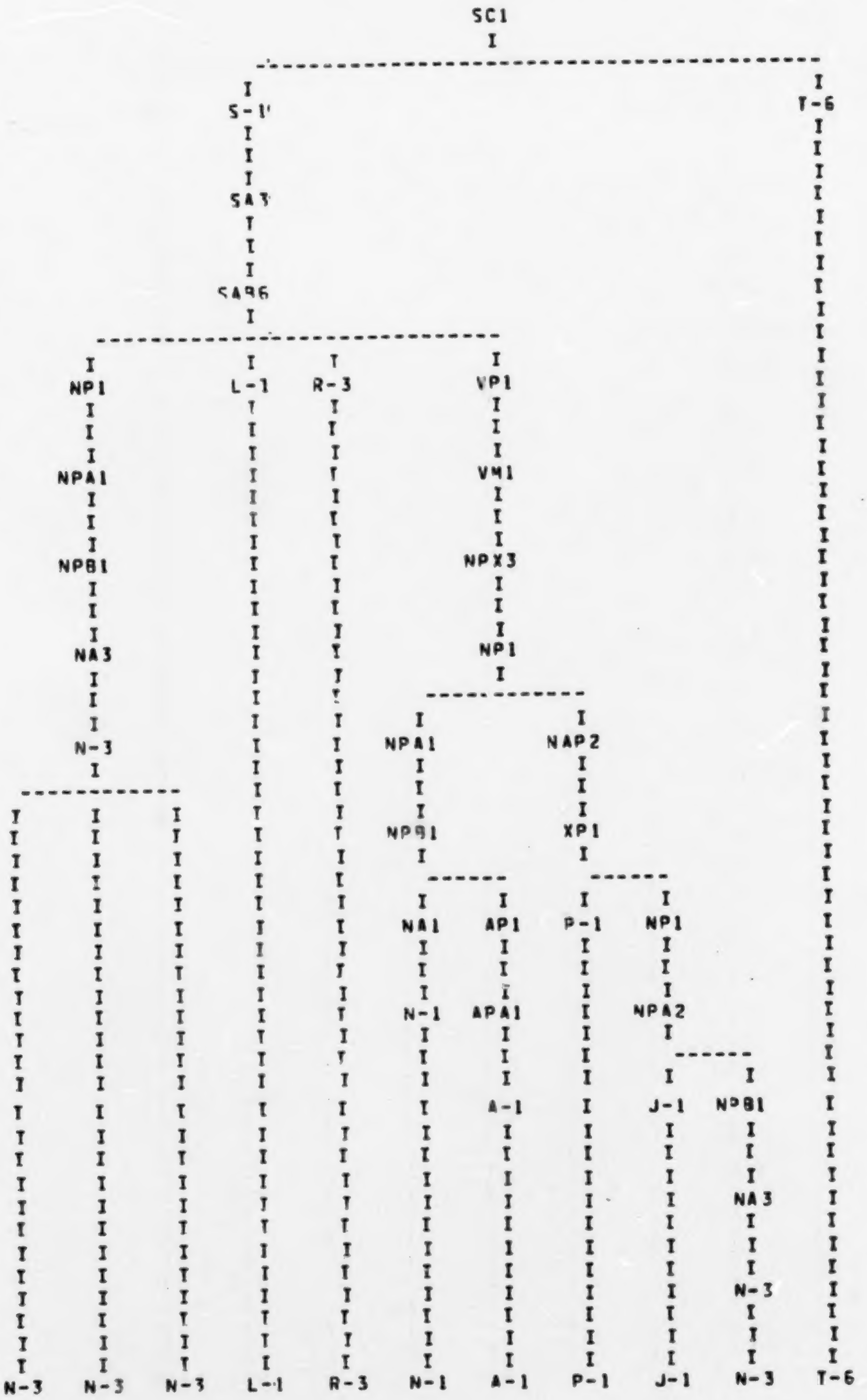
A-1
J-1
NPB1
NA3
N-3
L-1
N-3
N-3
N-3
N-1
A-1
P-1
J-1
N-3
T-6

RESULTANT HEBREW SENTENCE-

AYN XYYM NXMN BYALYQ MSWRR GDWL BAR8 YSRAL.

EQUIVALENT ENGLISH SENTENCE-
CHAIM NACHMAN BIYALIK IS NOT A GREAT POET IN THE LAND OF ISRAEL.   1EE

TREE DIAGRAM OF HEBREW SENTENCE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NP1
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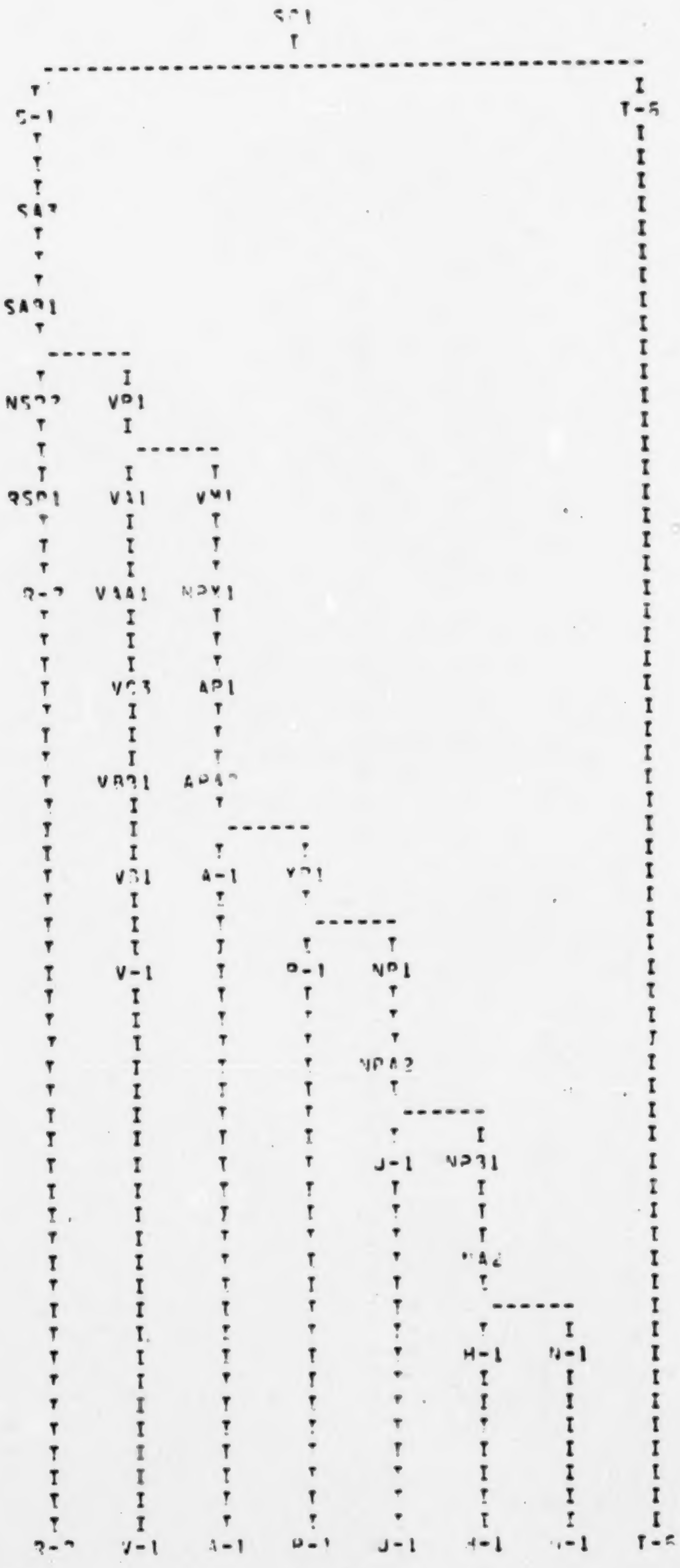
J-1
NPB1
NA3
N-3
N-3
N-3
N-3
L-1
R-3
N-1
A-1
P-1
J-1
N-3
T-6

RESULTANT HEBREW SENTENCE-

XYYM NXMN BYALYQ AYNW MSWRR GDWL BARZ YSRAL.

EQUIVALENT ENGLISH SENTENCE-
HE WAS GREATER THAN ALL THE POETS.

TREE DIAGRAM OF HEBREW SENTENCE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VB1
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XP1
V-1
P-1
NP1
NPA2
J-1
NPB1
HA2
H-1
N-1
T-6
B-2
V-1
A-1
P-1
J-1
H-1
N-1
T-6

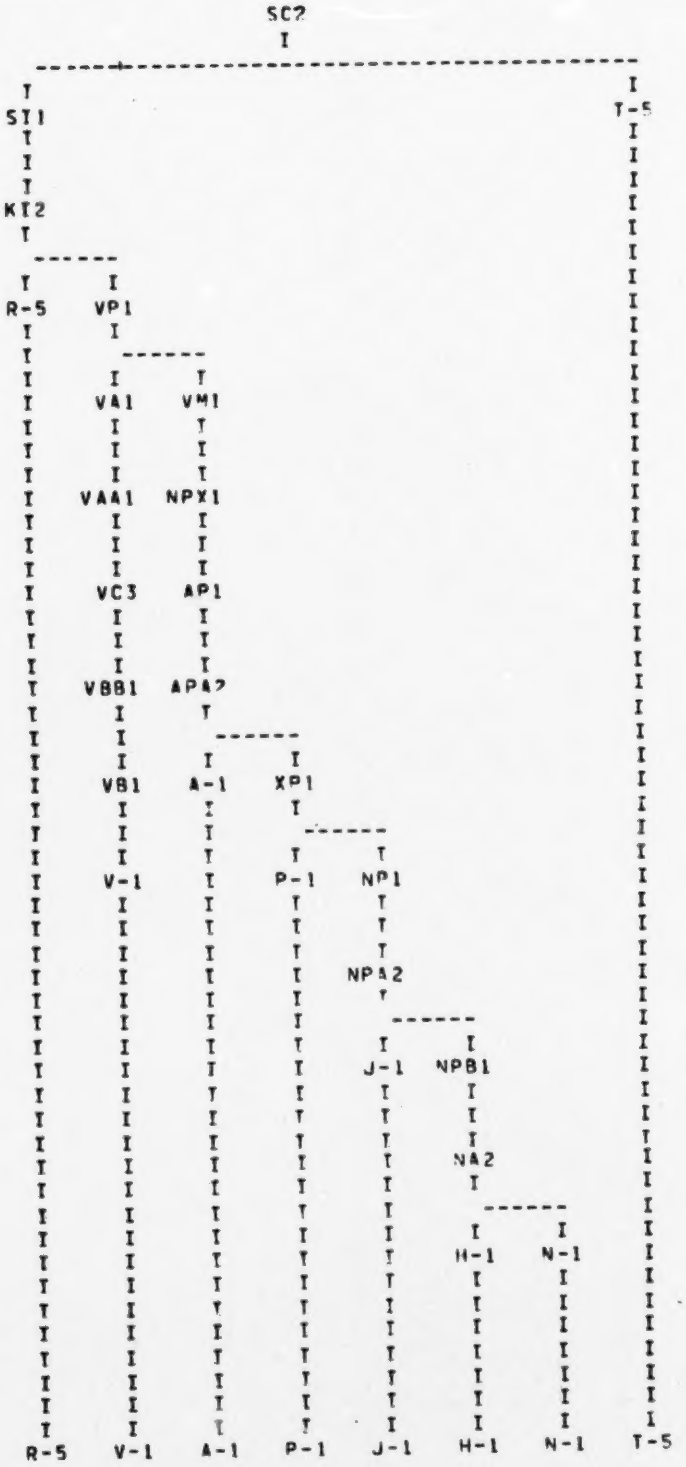
RESULTANT HEBREW SENTENCE-

HWA HYH GDWL MKL HMSWRRYM.

EQUIVALENT ENGLISH SENTENCE-
WHO WAS GREATER THAN ALL THE POETS?

2A

TREE DIAGRAM OF HEBREW SENTENCE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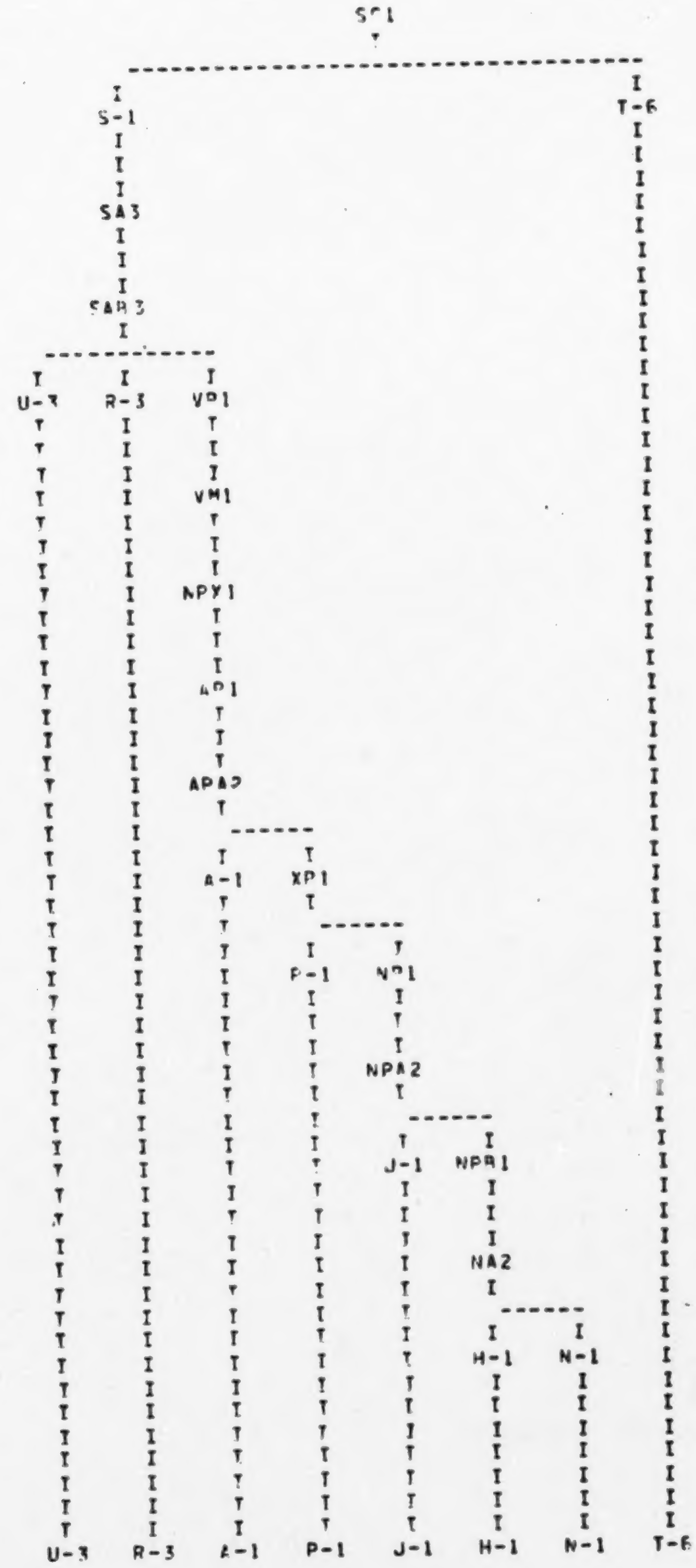
J-1
NPB1
NA2
H-1
N-1
R-5
V-1
A-1
P-1
J-1
H-1
N-1
T-5

RESULTANT HEBREW SENTENCE-

MY HYH GDWL MKL HMSWRRYM?

```
EQUIVALENT ENGLISH SENTENCE-
HE IS GREATER THAN ALL THE POETS.

TREE DIAGRAM OF HEBREW SENTENCE
```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J-1
NPB1
NA2
H-1
N-1
U-3
R-3
A-1
P-1
J-1
H-1
N-1
T-6

```
RESULTANT HEBREW SENTENCE-

YENW GDWL MKL HMSWRRYM.
```

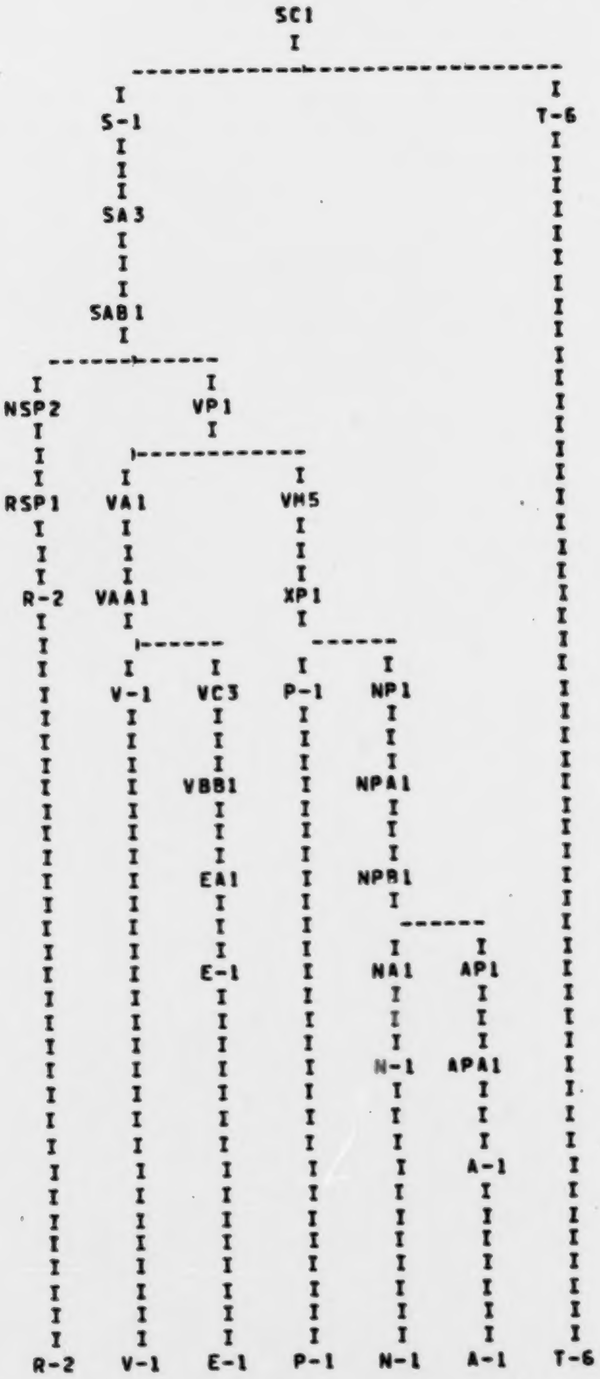
```
EQUIVALENT ENGLISH SENTENCE-
HE LIVED IN A SMALL VILLAGE.

 TREE DIAGRAM OF HEBREW SENTENCE

           SC1
            I
   -------------------------
  I                        I
 S-1                      T-6
  I                        I
  I                        I
  I                        I
 SA3                       I
  I                        I
  I                        I
  I                        I
SAB1                       I
  I                        I
   -----                   I
  I    I                   I
NSP2  VP1                  I
  I    I                   I
  I    I-----              I
  I    I    I              I
RSP1  VA1  VM5             I
  I    I    I              I
  I    I    I              I
  I    I    I              I
 R-2 VAA1  XP1             I
  I    I    I              I
  I    I     -----         I
  I    I    I    I         I
  I   VC3  P-1  NP1        I
  I    I    I    I         I
  I    I    I    I         I
  I    I    I    I         I
  I  VBB1   I  NPA1        I
  I    I    I    I         I
  I    I    I    I         I
  I    I    I    I         I
  I   VB1   I  NPB1        I
  I    I    I    I         I
  I    I    I     -----    I
  I    I    I    I    I    I
  I   V-5   I   NA1  AP1   I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I   N-1 APA1   I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I   A-1   I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I    I    I
  I    I    I    I    I    I
 R-2  V-5  P-1  N-1  A-1  T-6

      RESULTANT HEBREW SENTENCE-


  HWA YSB BKPR Q@N.
```

```
EQUIVALENT ENGLISH SENTENCE-
HE WILL LIVE IN A SMALL VILLAGE.

 TREE DIAGRAM OF HEBREW SENTENCE

             SC1
              I
   ------------------------------
  I                             I
 S-1                           T-6
  I                             I
  I                             I
  I                             I
 SA2                            I
  I                             I
  I                             I
  I                             I
SAB1                            I
  I                             I
   ------                       I
  I     I                       I
NSP2   VP1                      I
  I     I                       I
  I      ------                 I
  I     I     I                 I
RSP1   VA1   VM5                I
  I     I     I                 I
  I     I     I                 I
  I     I     I                 I
 R-2  VAA1   XP1                I
  I     I     I                 I
  I     I      ------           I
  I     I     I     I           I
  I    VC3   P-1   NP1          I
  I     I     I     I           I
  I     I     I     I           I
  I     I     I     I           I
  I   VBB1    I   NPA1          I
  I     I     I     I           I
  I     I     I     I           I
  I     I     I     I           I
  I    VB1    I   NPP1          I
  I     I     I     I           I
  I     I     I      ------     I
  I     I     I     I     I     I
  I    V-5    I    NA1   AD1    I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I    N-1  APP1    I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I    A-1    I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
 R-2   V-5   P-1   N-1   A-1   T-6

        RESULTANT HEBREW SENTENCE-

   HWA YYSB BKPR GBM.
```

```
      EQUIVALENT ENGLISH SENTENCE-                                    48
      HE IS LIVING IN A SMALL VILLAGE.

        TREE DIAGRAM OF HEBREW SENTENCE

             SC1
              I
   ------------------------------
  I                             I
 S-1                           T-6
  I                             I
  I                             I
  I                             I
 SA2                            I
  I                             I
  I                             I
  I                             I
SAP1                            I
  I                             I
   ------                       I
  I     I                       I
NSP2   VP1                      I
  I     I                       I
  I      ------                 I
  I     I     I                 I
RSP1   VA1   VM5                I
  I     I     I                 I
  I     I     I                 I
  I     I     I                 I
 R-2  VAA1   XP1                I
  I     I     I                 I
  I     I      ------           I
  I     I     I     I           I
  I    VC3   P-1   NP1          I
  I     I     I     I           I
  I     I     I     I           I
  I     I     I     I           I
  I   VBP1    I   NPA1          I
  I     I     I     I           I
  I     I     I     I           I
  I     I     I     I           I
  I    EA1    I   NPR1          I
  I     I     I     I           I
  I     I     I      ------     I
  I     I     I     I     I     I
  I    E-5    I    NA1   AP1    I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I    N-1  APA1    I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I    A-1    I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
  I     I     I     I     I     I
 R-2   E-5   P-1   N-1   A-1   T-6

        RESULTANT HEBREW SENTENCE-


   HWA YWSB BKPR QTN.
```

EQUIVALENT ENGLISH SENTENCE-
HE USED TO SIT ON A SMALL CHAIR.

TREE DIAGRAM OF HEBREW SENTENCE

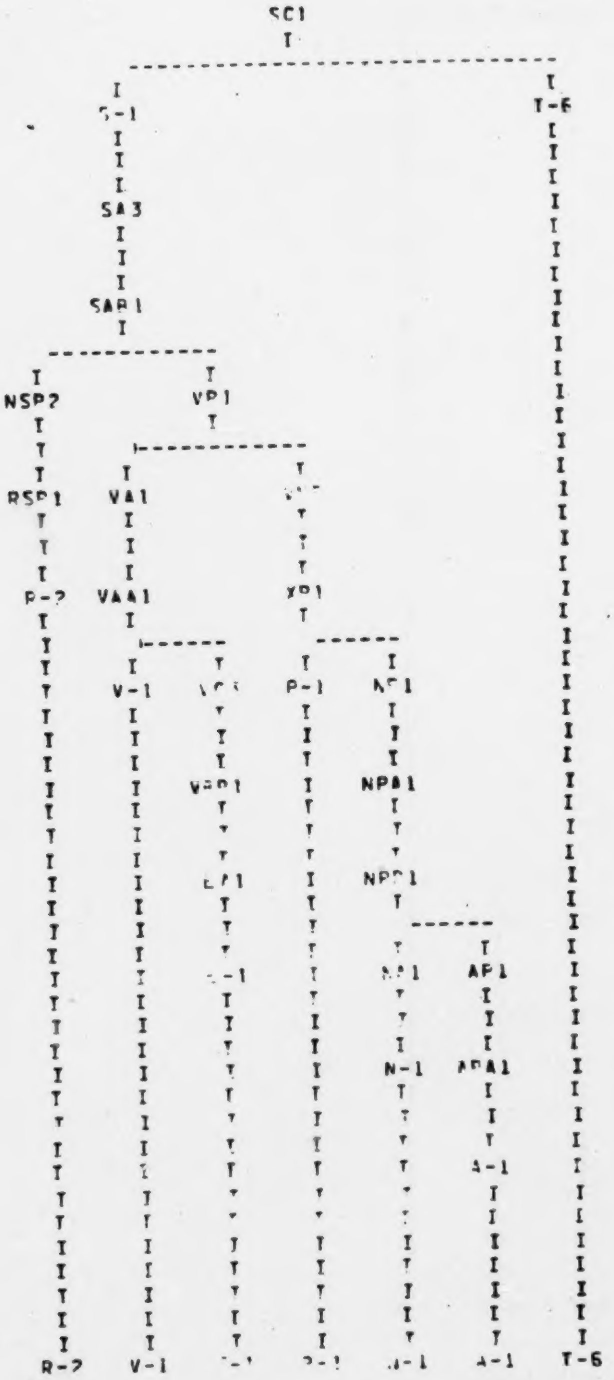

SC1
S-1
T-6
SA3
SAB1
NSP2
VP1
RSP1
VA1
VM5
R-2
VAA1
XP1
V-1
VC3
P-1
NP1
VBB1
NPA1
EA1
NPB1
E-1
NA1
AP1
N-1
APA1
A-1
R-2
V-1
E-1
P-1
N-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

HWA HYH YWSB OL KCA Q@N.

EQUIVALENT ENGLISH SENTENCE-
HE WILL CONTINUOUSLY LIVE IN A SMALL VILLAGE.

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA3
SAB1
NSP2
VP1
RSP1
VA1
R-2
VAA1
XP1
V-1
P-1
NP1
VPP1
NPA1
EP1
NPP1
E-1
NP1
AP1
N-1
APA1
A-1
R-2
V-1
E-1
P-1
N-1
A-1
T-6

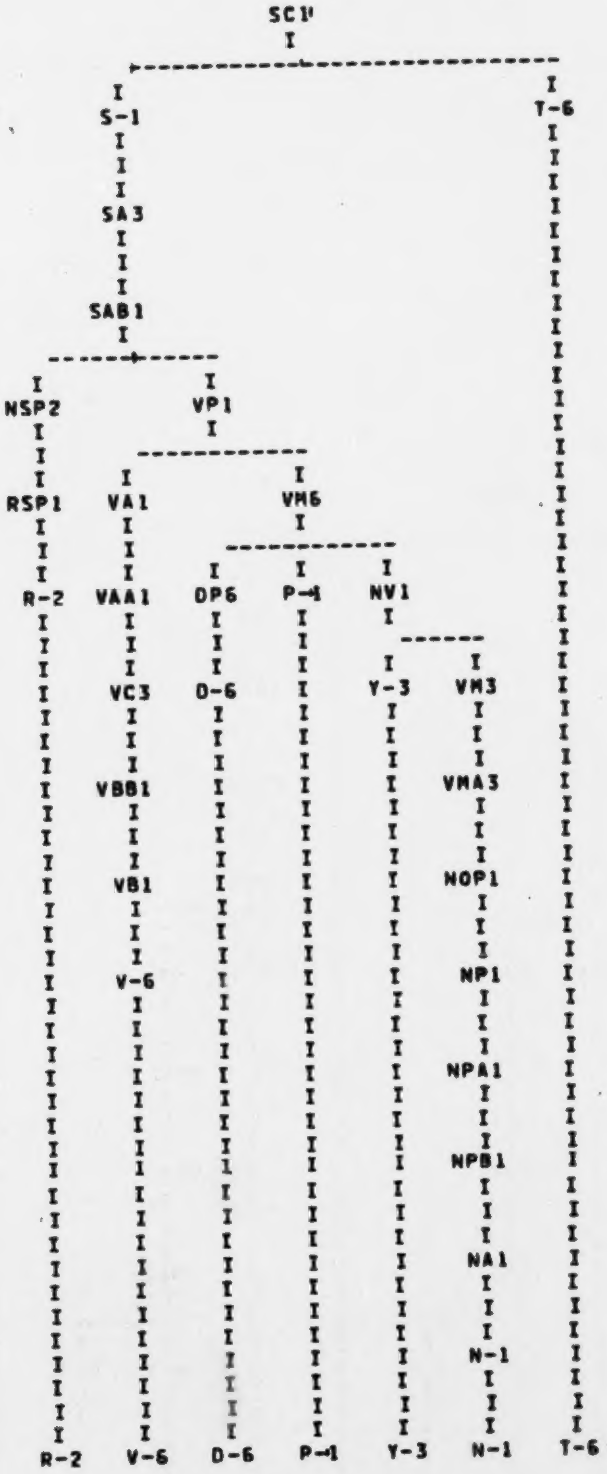
RESULTANT HEBREW SENTENCE-

HWA YHYH YWSB BKPR QTN.

EQUIVALENT ENGLISH SENTENCE-
HE GREATLY LOVED TO STUDY LAW.

5

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA3
SAB1
NSP2
VP1
RSP1
VA1
VM6
R-2
VAA1
DP6
P-1
NV1
VC3
D-6
Y-3
VM3
VBB1
VMA3
VB1
NOP1
V-6
NP1
NPA1
NPB1
NA1
N-1
R-2
V-6
D-6
P-1
Y-3
N-1
T-6

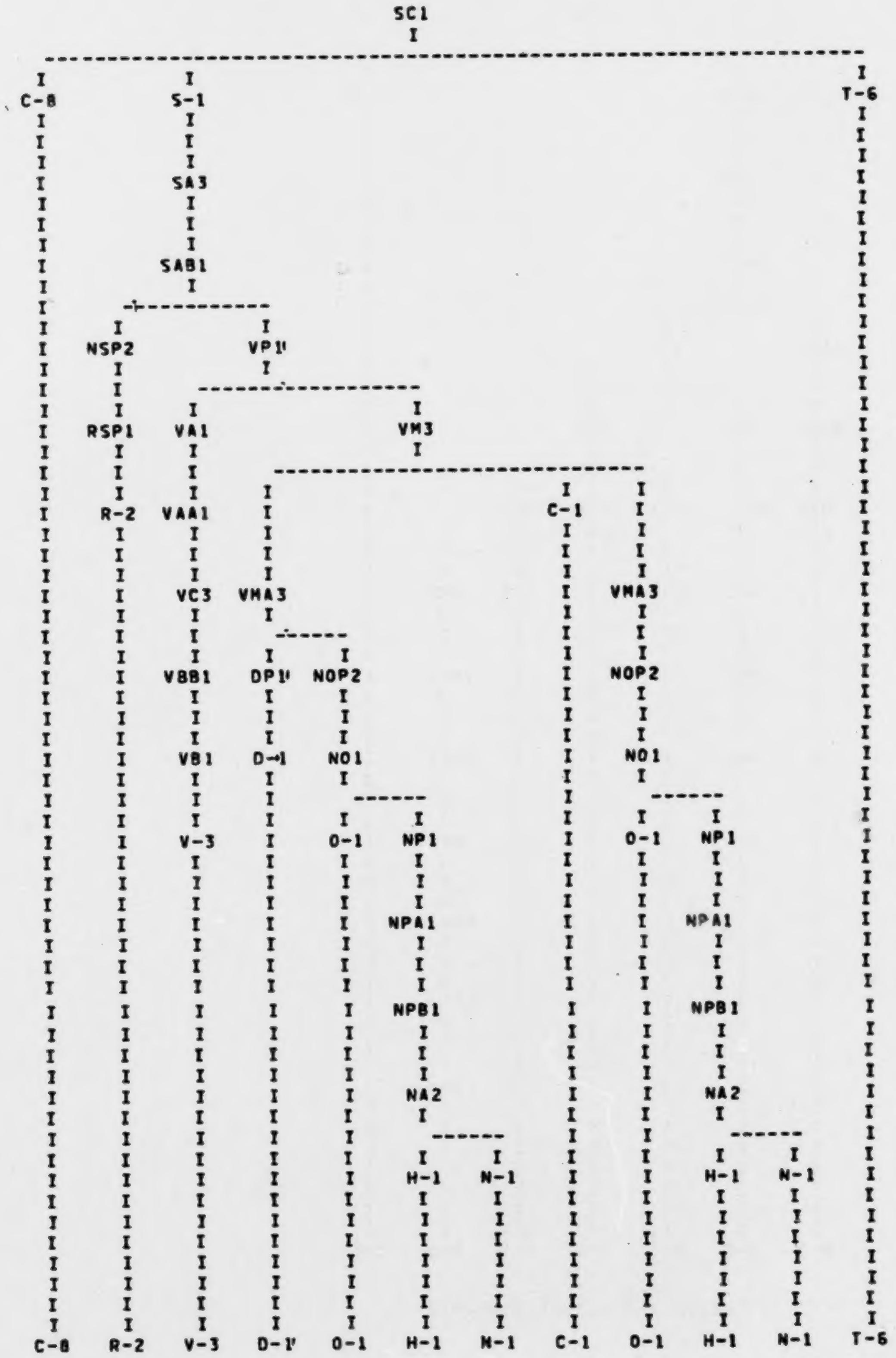
RESULTANT HEBREW SENTENCE-

HWA AHB MAWD LLMWD TWRH.

EQUIVALENT ENGLISH SENTENCE-
BUT HE ALSO LOVED THE FIELDS AND THE FORESTS.

6

TREE DIAGRAM OF HEBREW SENTENCE


SC1
C-8
S-1
T-6
SA3
SAB1
NSP2
VP1
RSP1
VA1
VM3
R-2
VAA1
C-1
VC3
VMA3
VMA3
VBB1
DP1
NOP2
NOP2
VB1
D-1
NO1
NO1
V-3
O-1
NP1
O-1
NP1
NPA1
NPA1
NPB1
NPB1
NA2
NA2
H-1
N-1
H-1
N-1
C-8
R-2
V-3
D-1
O-1
H-1
N-1
C-1
O-1
H-1
N-1
T-6

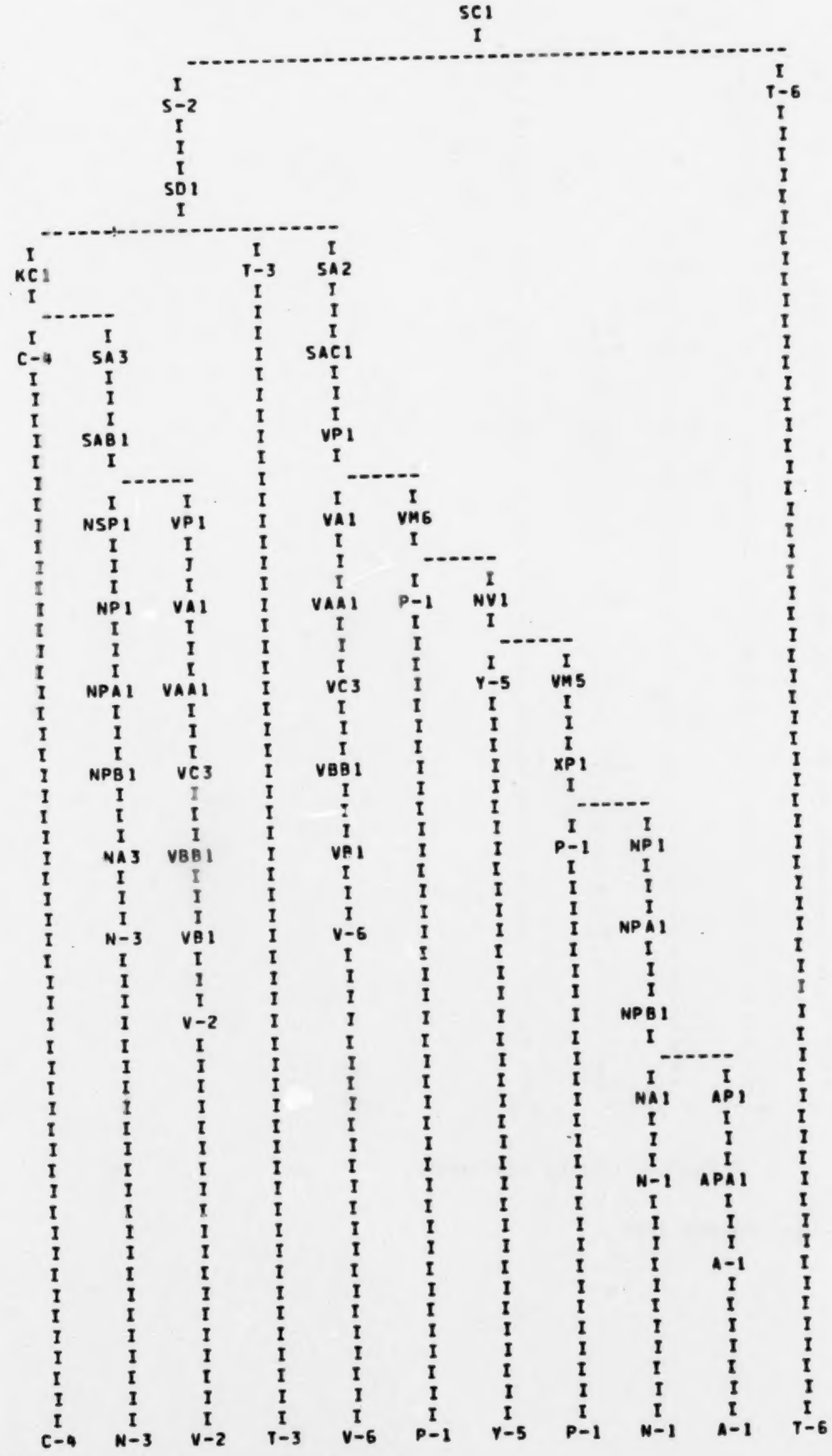
RESULTANT HEBREW SENTENCE-

ABL HWA AHB GM AT HSDWT HAT HYORYM.

```
        EQUIVALENT ENGLISH SENTENCE-                                   6A
        BUT WHAT DID HE LOVE?

          TREE DIAGRAM OF HEBREW SENTENCE

               SC2
                I
   ------+--------------------
  I      I                   I
 C-8    SI1                 T-5
  I      I                   I
  I      I                   I
  I      I                   I
  I     KI3                  I
  I      I                   I
  I      ------              I
  I      I      I            I
  I     R-5    SQ02          I
  I      I      I            I
  I      I      ------       I
  I      I      I      I     I
  I      I    NSP2   VQ01    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I    RSP1    VP1    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I     R-2    VA1    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I    VAA1    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I     VC3    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I    VBB1    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I     VB1    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I     V-1    I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
  I      I      I      I     I
 C-8    R-5    R-2    V-1   T-5

           RESULTANT HEBREW SENTENCE-


      APL MH HWA AHB?
```

EQUIVALENT ENGLISH SENTENCE-
WHEN BIYALIK GREW UP, HE WENT TO STUDY IN A LARGE ACADAMY.

TREE DIAGRAM OF HEBREW SENTENCE

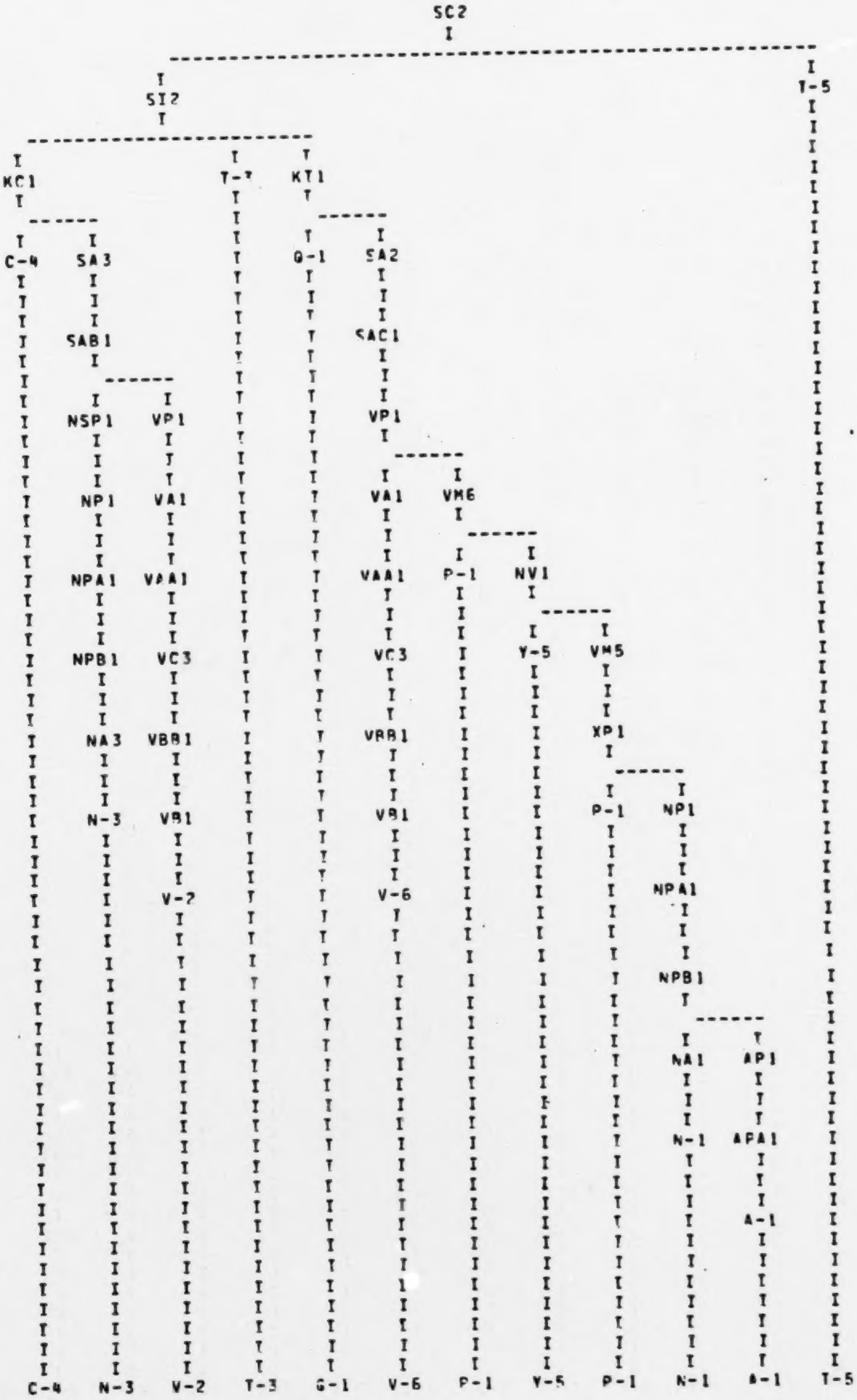

SC1
S-2
T-6
SD1
KC1
T-3
SA2
C-4
SA3
SAC1
SAB1
VP1
NSP1
VP1
VA1
VM6
NP1
VA1
VAA1
P-1
NV1
NPA1
VAA1
VC3
Y-5
VM5
NPB1
VC3
VBB1
XP1
NA3
VBB1
VB1
P-1
NP1
N-3
VB1
V-6
NPA1
V-2
NPB1
NA1
AP1
N-1
APA1
A-1
C-4
N-3
V-2
T-3
V-6
P-1
Y-5
P-1
N-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

KASR BYALYQ GDL, HLK LLMWD BYSYBH GDWLH.

EQUIVALENT ENGLISH SENTENCE-
WHEN BIYALIK GREW UP, DID HE GO TO STUDY IN A LARGE ACADAMY? 7A

TREE DIAGRAM OF HEBREW SENTENCE


SC2
SI2
T-5
KC1
T-3
KT1
C-4
SA3
Q-1
SA2
SAB1
SAC1
NSP1
VP1
VP1
NP1
VA1
VA1
VM6
NPA1
VAA1
VAA1
P-1
NV1
NPB1
VC3
VC3
Y-5
VM5
NA3
VBB1
VBB1
XP1
N-3
VB1
VB1
P-1
NP1
V-2
V-6
NPA1
NPB1
NA1
AP1
N-1
APA1
A-1
C-4 N-3 V-2 T-3 Q-1 V-6 P-1 Y-5 P-1 N-1 A-1 T-5

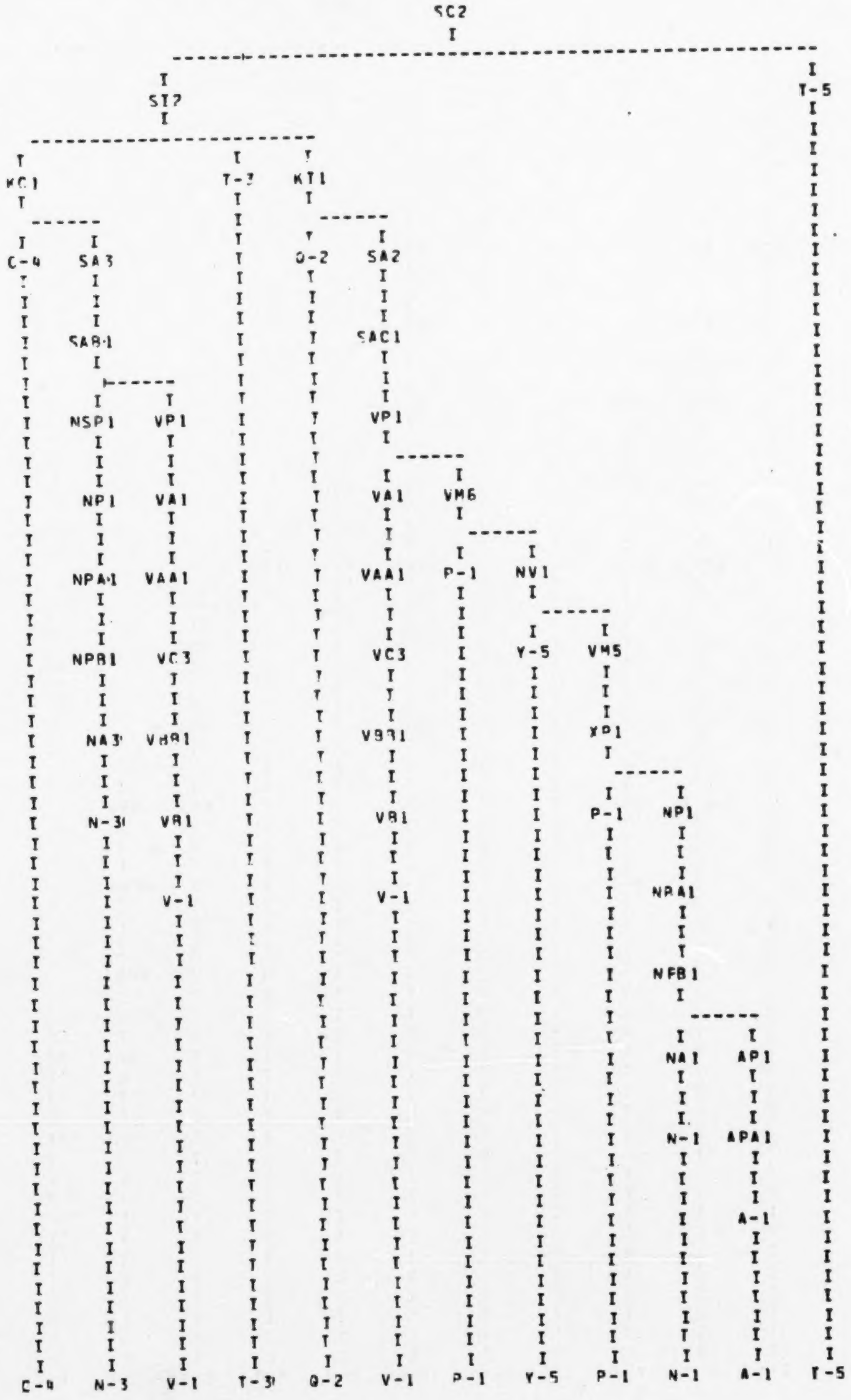
RESULTANT HEBREW SENTENCE-

KASR BYALYQ GDL, HHLK LLMWD BYSYBH GDWLH?

(Classical)

EQUIVALENT ENGLISH SENTENCE-
WHEN BIYALIK GREW UP, DID HE GO TO STUDY IN A LARGE ACADAMY? 7AA

TREE DIAGRAM OF HEBREW SENTENCE


SC2
ST2
T-5
KC1
T-3
KT1
C-4
SA3
Q-2
SA2
SAB1
SAC1
NSP1
VP1
VP1
NP1
VA1
VA1
VM6
NPA1
VAA1
VAA1
P-1
NV1
NPB1
VC3
VC3
Y-5
VM5
NA3
VBB1
VBB1
XP1
N-3
VB1
VB1
P-1
NP1
V-1
V-1
NPA1
NPB1
NA1
AP1
N-1
APA1
A-1
C-4
N-3
V-1
T-3
Q-2
V-1
P-1
Y-5
P-1
N-1
A-1
T-5

RESULTANT HEBREW SENTENCE-

KASR BYALYQ GDL, HAM HLK LLMWD BYSYBH GDWLH?

(Modern)

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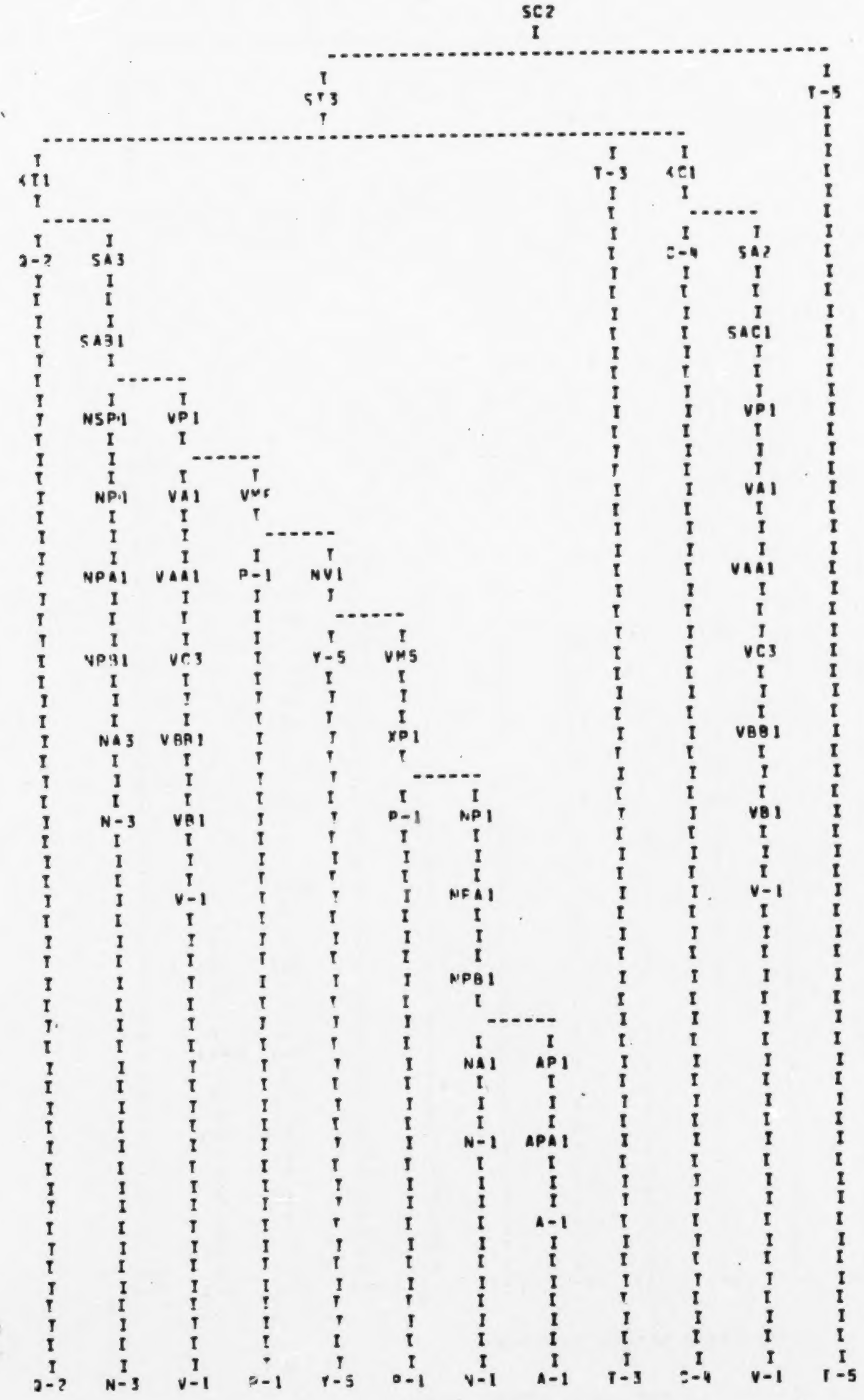
EQUIVALENT ENGLISH SENTENCE-
DID BIYALIK GO TO STUDY IN A LARGE ACADAMY WHEN HE GREW UP?                78

 TREE DIAGRAM OF HEBREW SENTENCE
```


SC2
ST3
T-5
ST1
T-3
SC1
Q-2
SA3
C-4
SA2
SAB1
SAC1
NSP1
VP1
VP1
NP1
VA1
VMF
VA1
NPA1
VAA1
P-1
NV1
VAA1
NPB1
VC3
Y-5
VM5
VC3
NA3
VBB1
XP1
VBB1
N-3
VB1
P-1
NP1
VB1
V-1
NPA1
V-1
NPB1
NA1
AP1
N-1
APA1
A-1
Q-2
N-3
V-1
P-1
Y-5
P-1
N-1
A-1
T-3
C-4
V-1
T-5

```
 RESULTANT HEBREW SENTENCE-

HAM BYALYQ HLK LLMWD BYSYBH GDWLH, KASR GDL?
```

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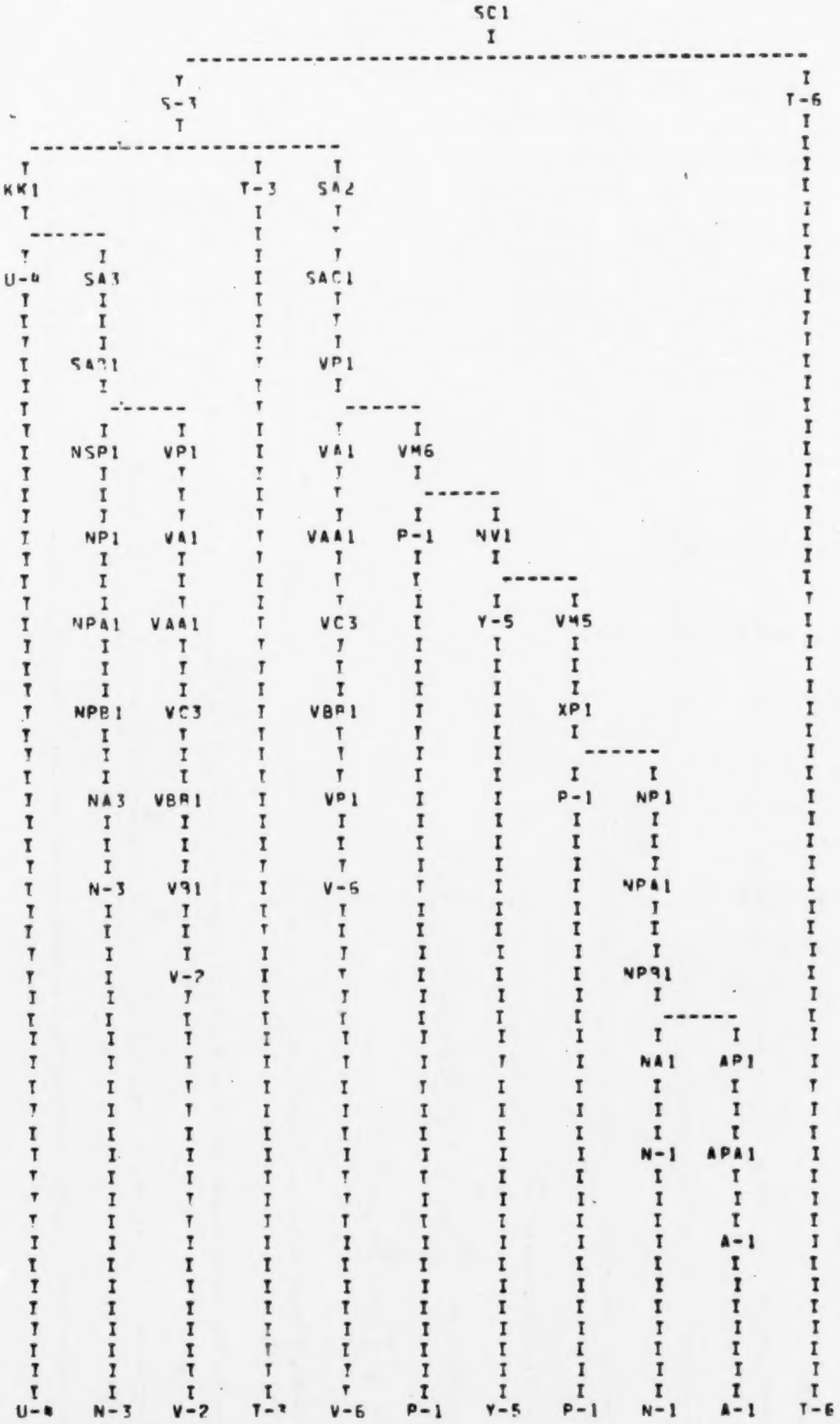
EQUIVALENT ENGLISH SENTENCE-
IF BIYALIK HAD GROWN UP, HE WOULD HAVE GONE TO STUDY IN A LARGE ACADAMY. 7C

TREE DIAGRAM OF HEBREW SENTENCE

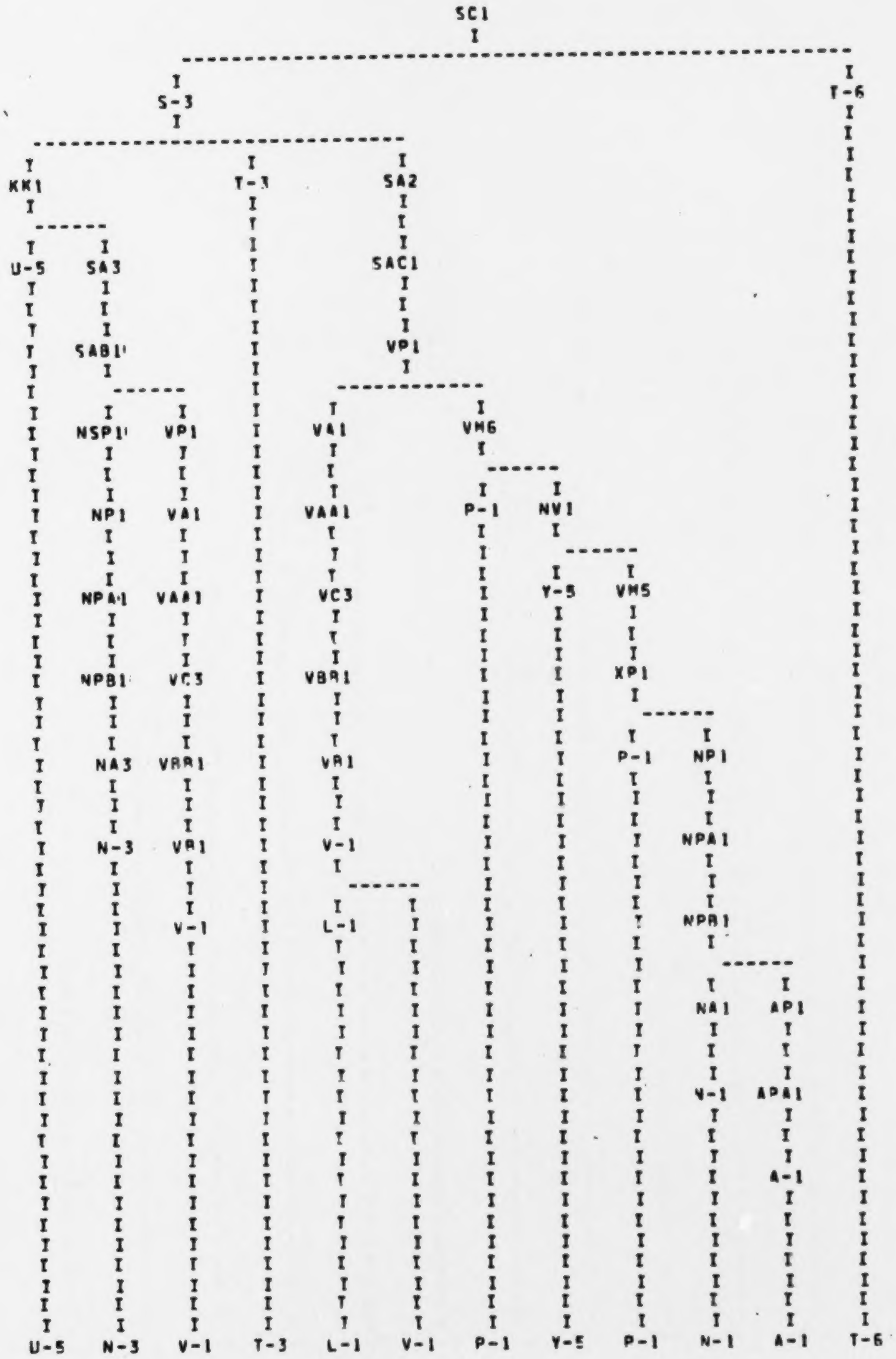

SC1
S-3
T-6
KK1
T-3
SA2
U-4
SA3
SAC1
SA31
VP1
NSP1
VP1
VA1
VM6
NP1
VA1
VAA1
P-1
NV1
NPA1
VAA1
VC3
Y-5
VM5
NPB1
VC3
VBP1
XP1
NA3
VBP1
VP1
P-1
NP1
N-3
VB1
V-6
NPA1
V-2
NPB1
NA1
AP1
N-1
APA1
A-1
U-4
N-3
V-2
T-3
V-6
P-1
Y-5
P-1
N-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

LW BYALYQ GDL, HLK LLMWD BYSYBH GDWLH.

EQUIVALENT ENGLISH SENTENCE-
IF BIYALIK HAD NOT GROWN UP, HE WOULD NOT HAVE GONE TO STUDY IN A BIG ACADAMY. 7D

TREE DIAGRAM OF HEBREW SENTENCE

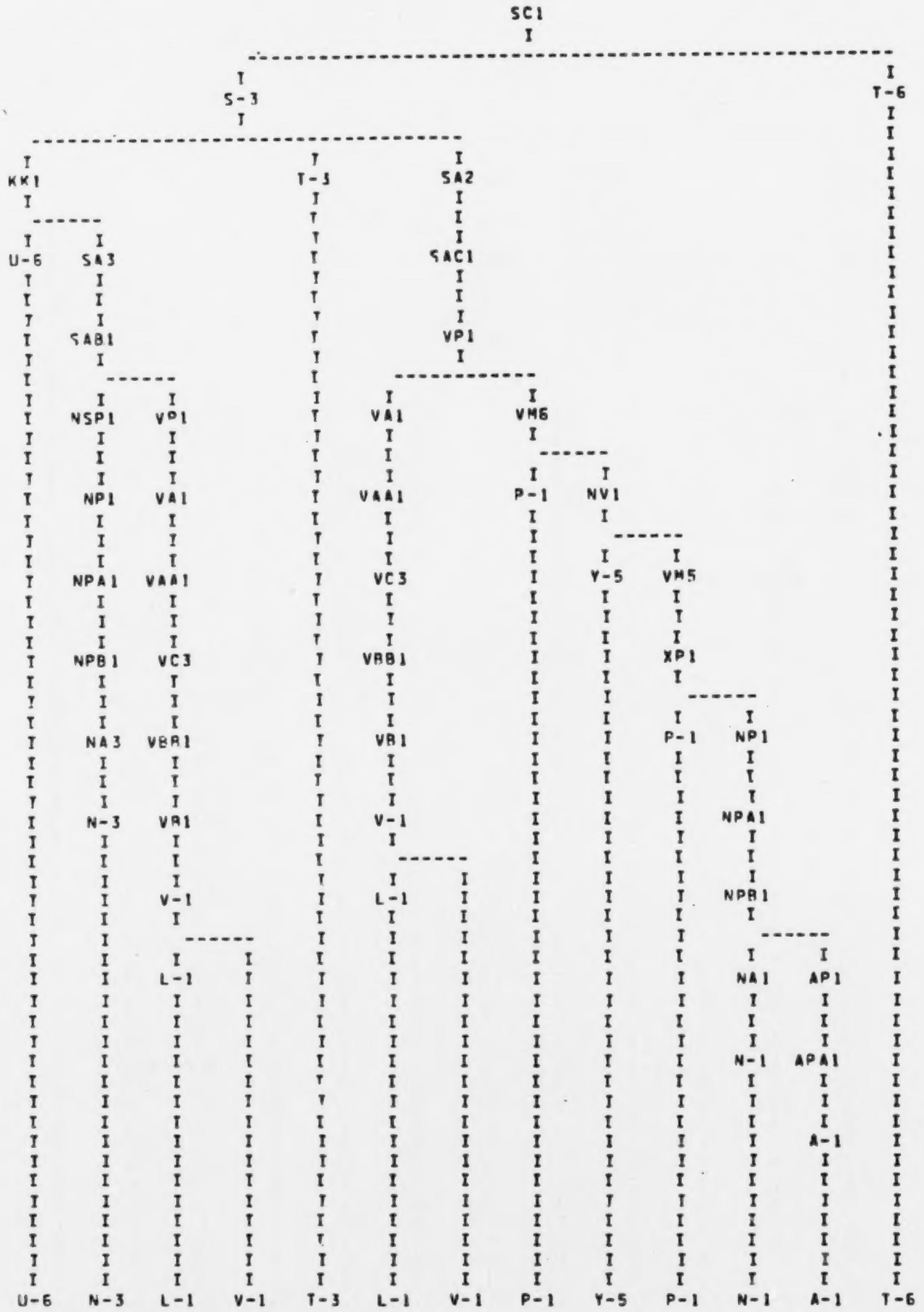

SC1
S-3
T-6
KK1
T-3
SA2
U-5
SA3
SAC1
SAB1
VP1
NSP1
VP1
VA1
VM6
NP1
VA1
VAA1
P-1
NV1
NPA1
VAA1
VC3
Y-5
VM5
NPB1
VC3
VBB1
XP1
NA3
VBB1
VB1
P-1
NP1
N-3
VB1
V-1
NPA1
V-1
L-1
NPB1
NA1
AP1
N-1
APA1
A-1
U-5
N-3
V-1
T-3
L-1
V-1
P-1
Y-5
P-1
N-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

LWLA BYALYQ GDL, LA HLK LLMWD BYSYBH GDWLH.

EQUIVALENT ENGLISH SENTENCE-
IF BIYALIK WILL NOT GROW UP, HE WILL NOT GO TO STUDY IN A LARGE ACADAMY. 7E

TREE DIAGRAM OF HEBREW SENTENCE

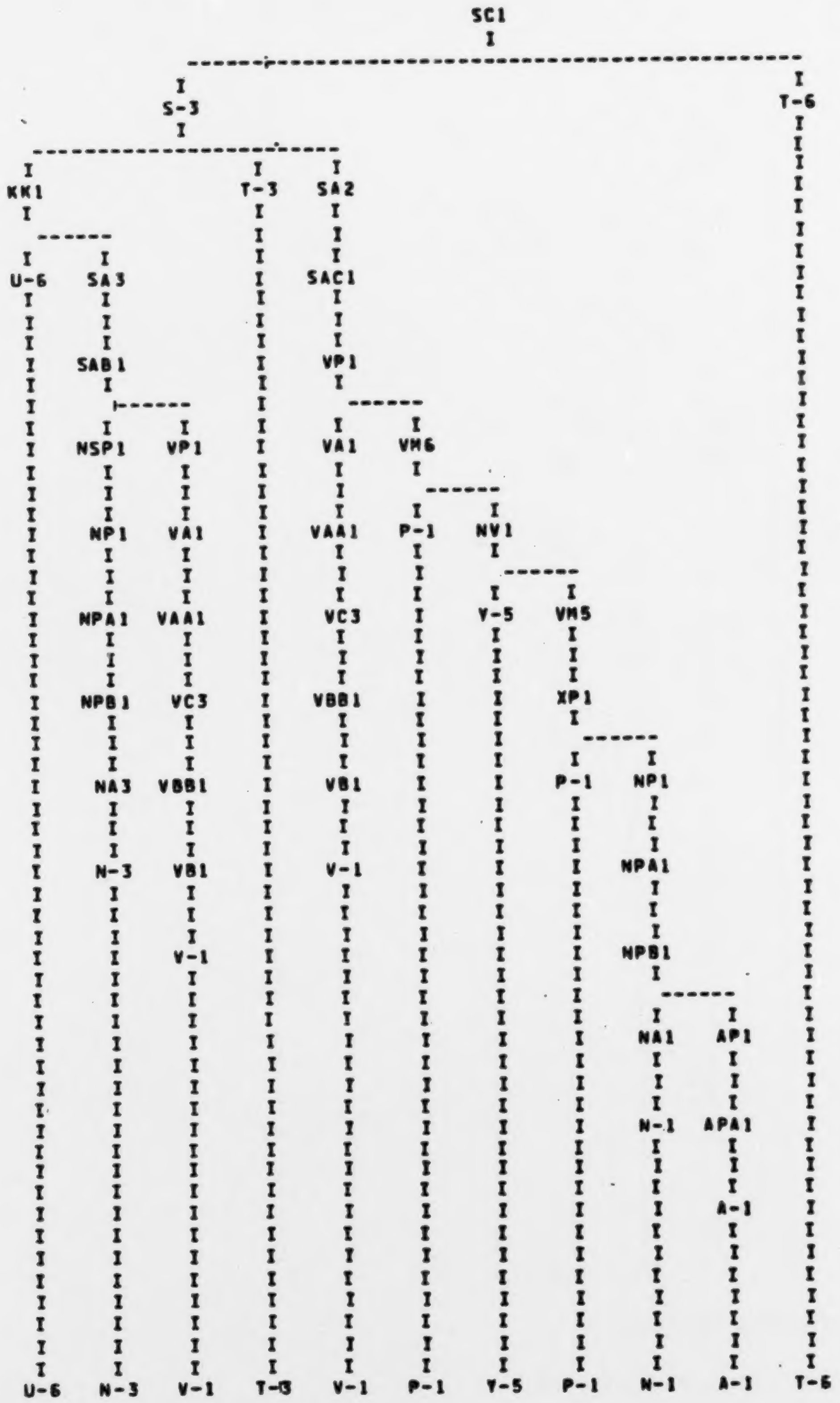

SC1
S-3
T-6
KK1
T-3
SA2
U-6
SA3
SAC1
SAB1
VP1
NSP1
VP1
VA1
VM6
NP1
VA1
VAA1
P-1
NV1
NPA1
VAA1
VC3
Y-5
VM5
NPB1
VC3
VBB1
XP1
NA3
VBB1
VB1
P-1
NP1
N-3
VB1
V-1
NPA1
V-1
L-1
NPB1
L-1
NA1
AP1
N-1
APA1
A-1
U-6
N-3
L-1
V-1
T-3
L-1
V-1
P-1
Y-5
P-1
N-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

AM BYALYQ LA YGDL, LA YYLK LLMWD BYSYBH GDWLH.

EQUIVALENT ENGLISH SENTENCE-
IF BIYALIK WILL GROW UP, HE WILL GO TO STUDY IN A LARGE ACADAMY. 7F

TREE DIAGRAM OF HEBREW SENTENCE

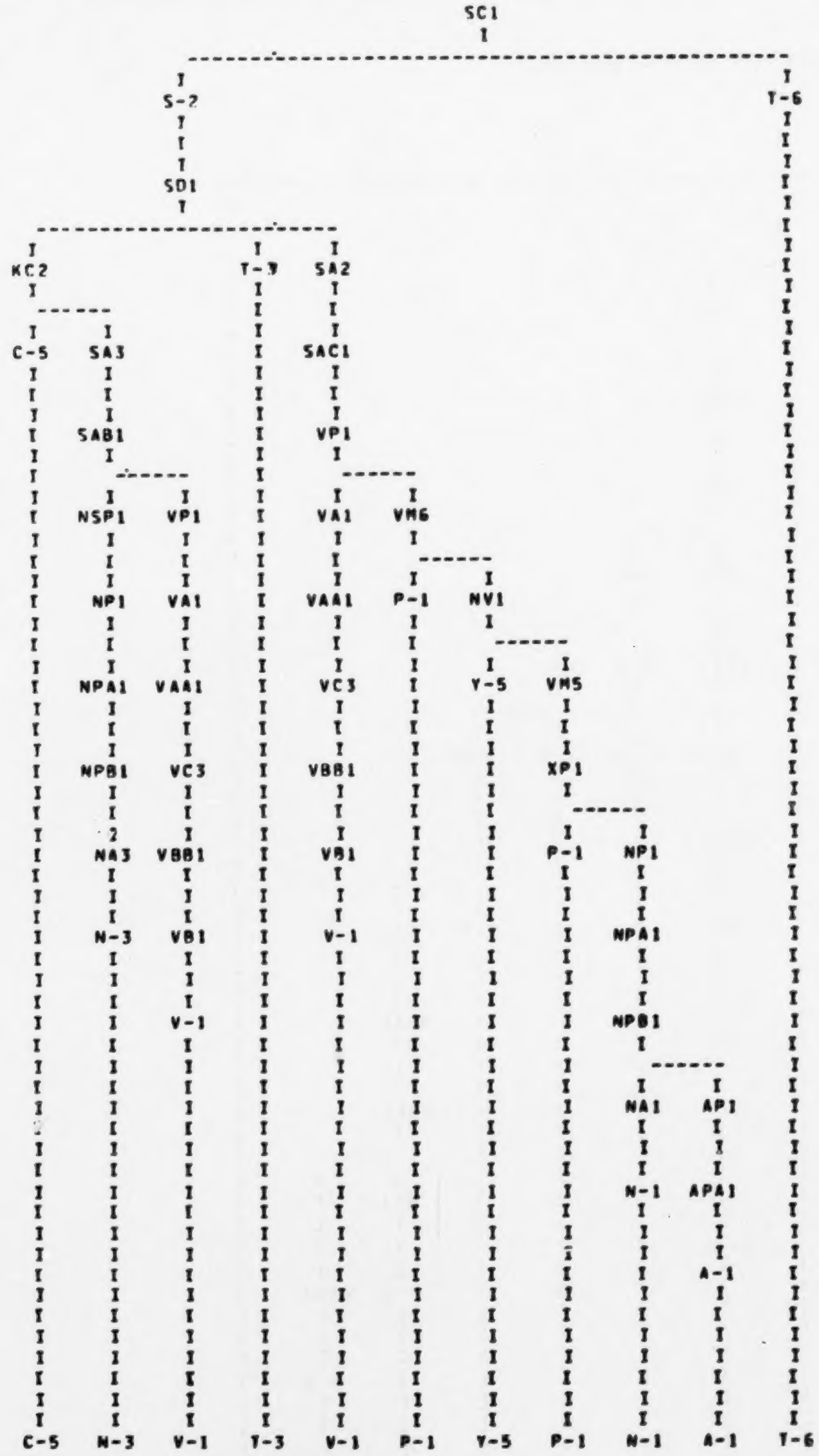

SC1
S-3
T-6
KK1
T-3
SA2
U-6
SA3
SAC1
SAB1
VP1
NSP1
VP1
VA1
VM6
NP1
VA1
VAA1
P-1
NV1
NPA1
VAA1
VC3
V-5
VM5
NPB1
VC3
VBB1
XP1
NA3
VBB1
VB1
P-1
NP1
N-3
VB1
V-1
NPA1
V-1
NPB1
NA1
AP1
N-1
APA1
A-1
U-6
N-3
V-1
T-3
V-1
P-1
V-5
P-1
N-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

AM BYALYQ YGDL, YYLK LLMWD BYSYBH GDWLH.

EQUIVALENT ENGLISH SENTENCE-
IN ORDER THAT BIYALIK GROW UP, HE WENT TO STUDY IN A LARGE ACADAMY. 76

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-2
T-6
SD1
KC2
T-3
SA2
C-5
SA3
SAC1
SAB1
VP1
NSP1
VP1
VA1
VM6
NP1
VA1
VAA1
P-1
NV1
NPA1
VAA1
VC3
Y-5
VM5
NPB1
VC3
VBB1
XP1
NA3
VBB1
VB1
P-1
NP1
N-3
VB1
V-1
NPA1
V-1
NPB1
NA1
AP1
N-1
APA1
A-1
C-5
N-3
V-1
T-3
V-1
P-1
Y-5
P-1
N-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

LPON BYALYQ YGDL, HLK LLMWD BYSYBH GDWLH.

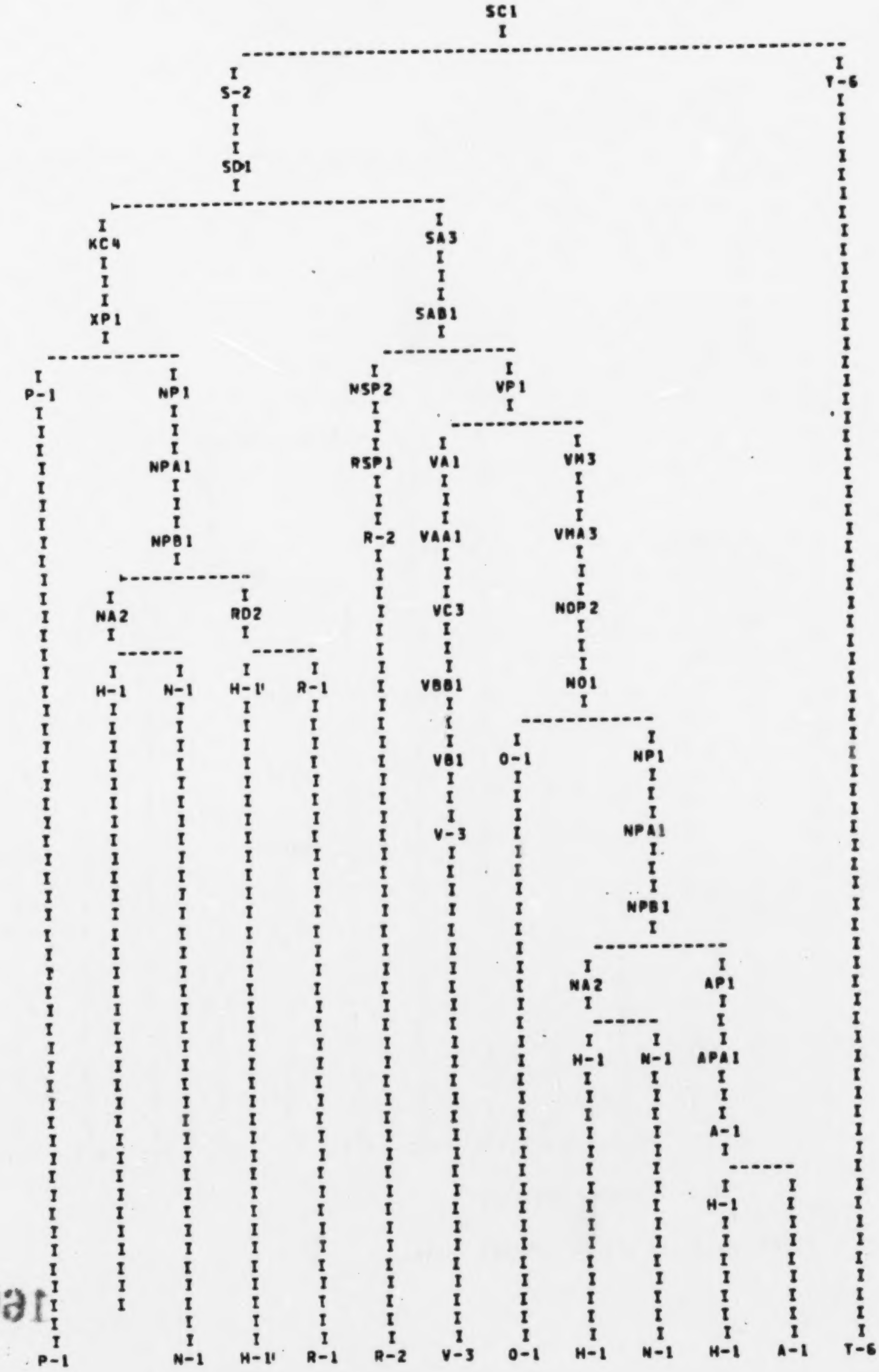
Should be:

KDY SBYALYQ YGDL, HLK LLMWD BYSYBH GDWLH.

164

EQUIVALENT ENGLISH SENTENCE-
IN THIS ACADAMY HE WROTE THE FIRST POEMS.

TREE DIAGRAM OF HEBREW SENTENCE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T-6
SD1
KC4
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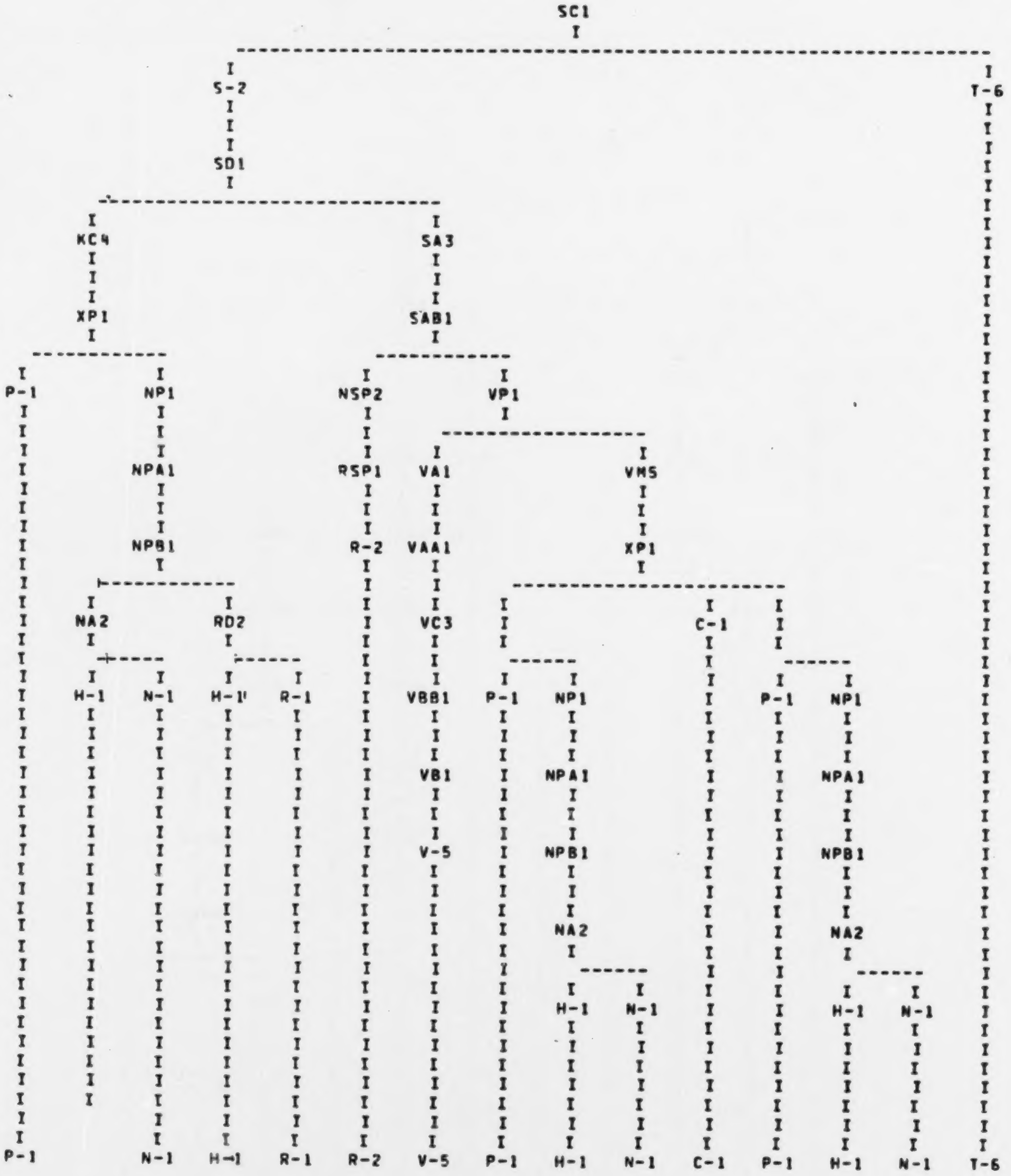
RSP1
VA1
VM3
NPB1
R-2
VAA1
VMA3
NA2
RD2
VC3
NOP2
H-1
N-1
H-1
R-1
VBB1
NO1
VB1
O-1
NP1
V-3
NPA1
NPB1
NA2
AP1
H-1
N-1
APA1
A-1
H-1
P-1
N-1
H-1
R-1
R-2
V-3
O-1
H-1
N-1
H-1
A-1
T-6

RESULTANT HEBREW SENTENCE-

BYSYBH HZWT HWA KTB AT HSYRYM HRASWNYM.

```
EQUIVALENT ENGLISH SENTENCE-
IN THESE POEMS HE WROTE ABOUT THE SUN AND THE MOON.                    9

 TREE DIAGRAM OF HEBREW SENTENCE
```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T-6
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KC4
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VP1
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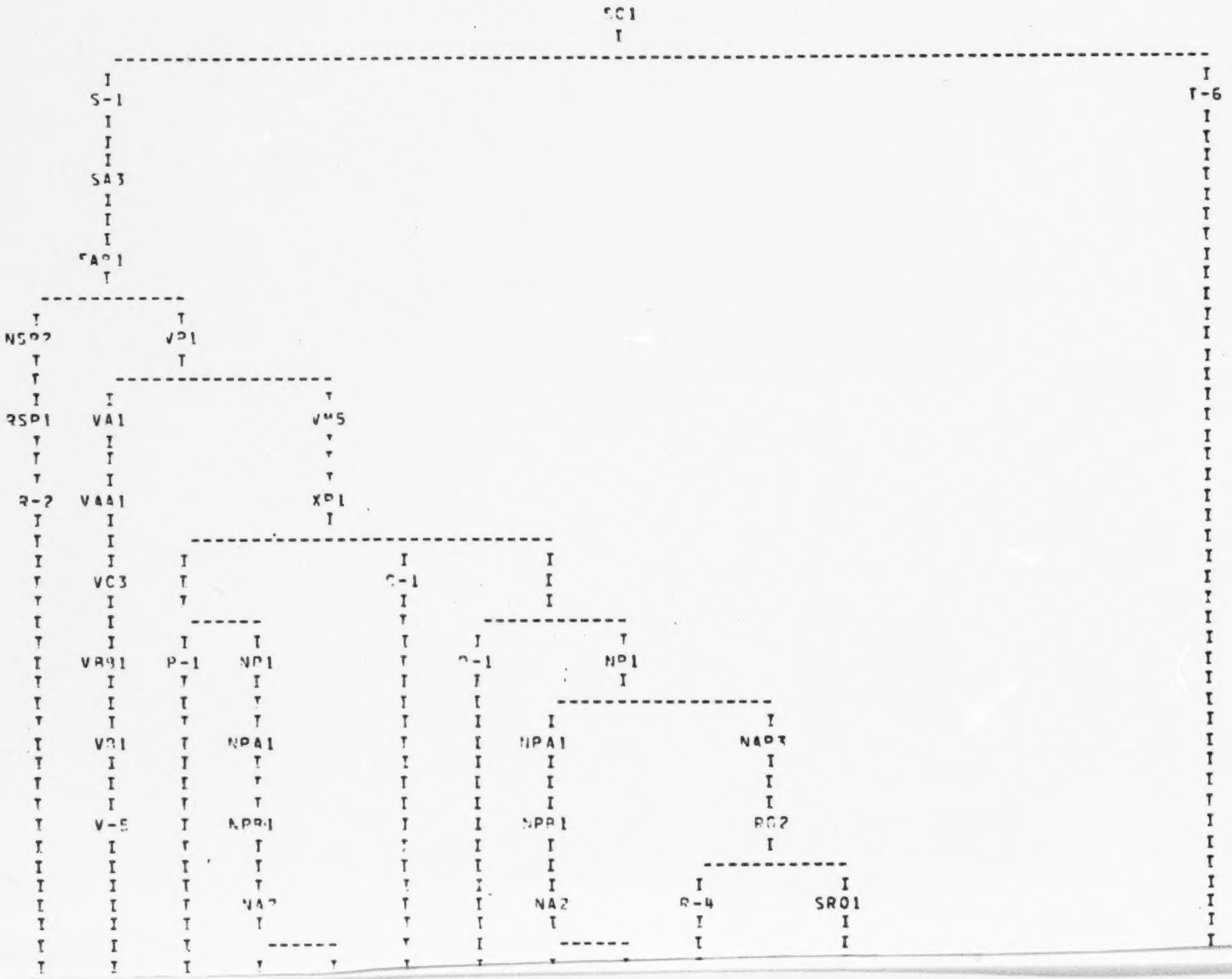
RSP1
VA1
VM5
NPB1
R-2
VAA1
XP1
NA2
RD2
VC3
C-1
H-1
N-1
H-1
R-1
VBB1
P-1
NP1
P-1
NP1
VB1
NPA1
NPA1
V-5
NPB1
NPB1
NA2
NA2
H-1
N-1
H-1
N-1
P-1
N-1
H-1
R-1
R-2
V-5
P-1
H-1
N-1
C-1
P-1
H-1
N-1
T-6

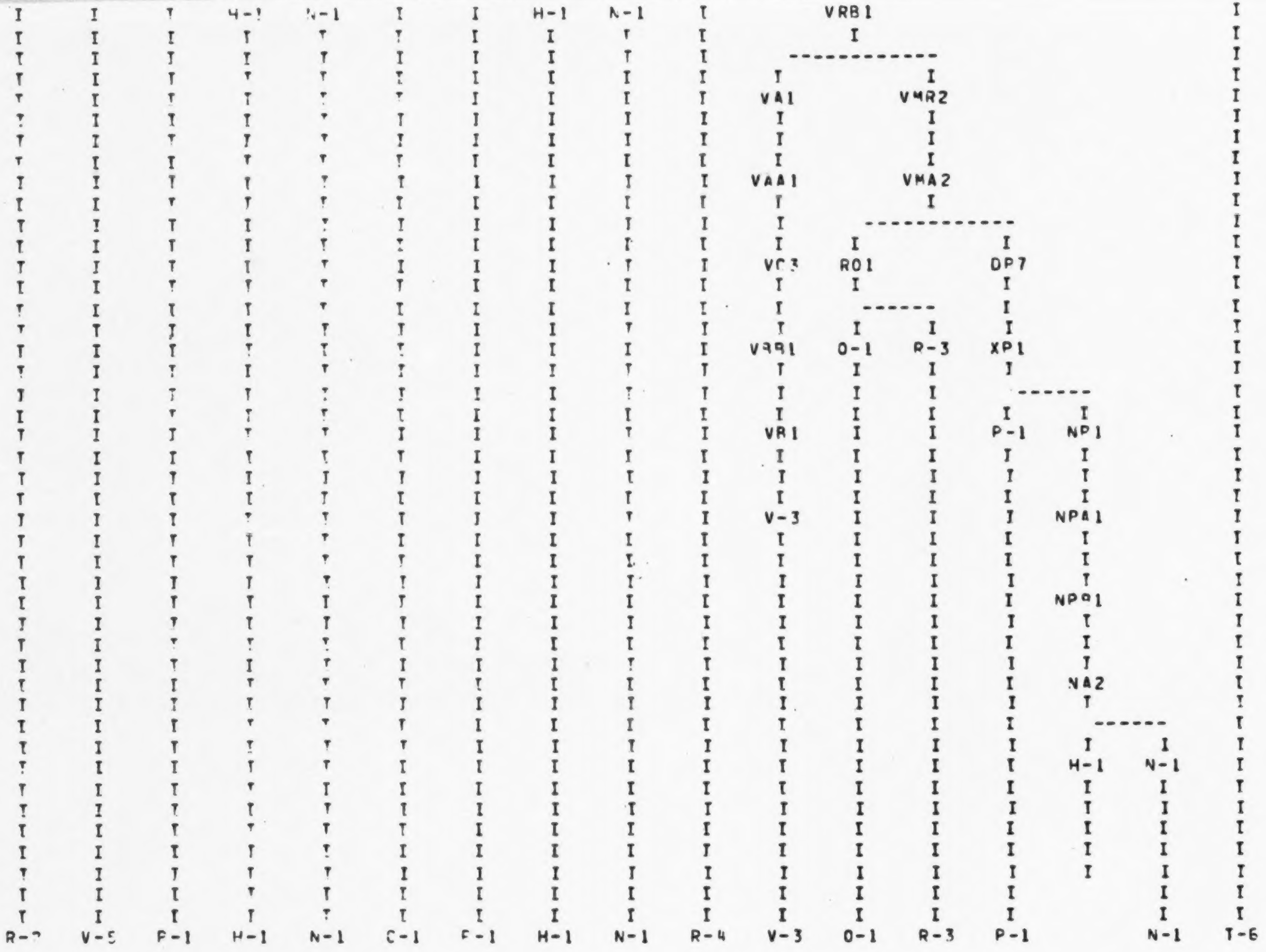
```
      RESULTANT HEBREW SENTENCE-

  BSYRYM HALH HWA KTB OL HSMS WOL HYRX.
```

EQUIVALENT ENGLISH SENTENCE-
HE WROTE ABOUT THE FIELDS AND FORESTS WHICH HE SAW IN THE VILLAGE. 1D

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA3
SAP1
NSP2
VP1
RSP1
VA1
VM5
R-2
VAA1
XP1
VC3
C-1
VB91
P-1
NP1
P-1
NP1
VB1
NPA1
NPA1
NAP3
V-5
NPB1
NPB1
RC2
NA2
NA2
R-4
SRO1



H-1
N-1
H-1
N-1
VRB1
VA1
VMR2
VAA1
VMA2
VC3
RO1
DP7
VRB1
O-1
R-3
XP1
VR1
P-1
NP1
V-3
NPA1
NPP1
NA2
H-1
N-1
R-2
V-5
P-1
H-1
N-1
C-1
F-1
H-1
N-1
R-4
V-3
O-1
R-3
P-1
N-1
T-6

RESULTANT HEBREW SENTENCE-

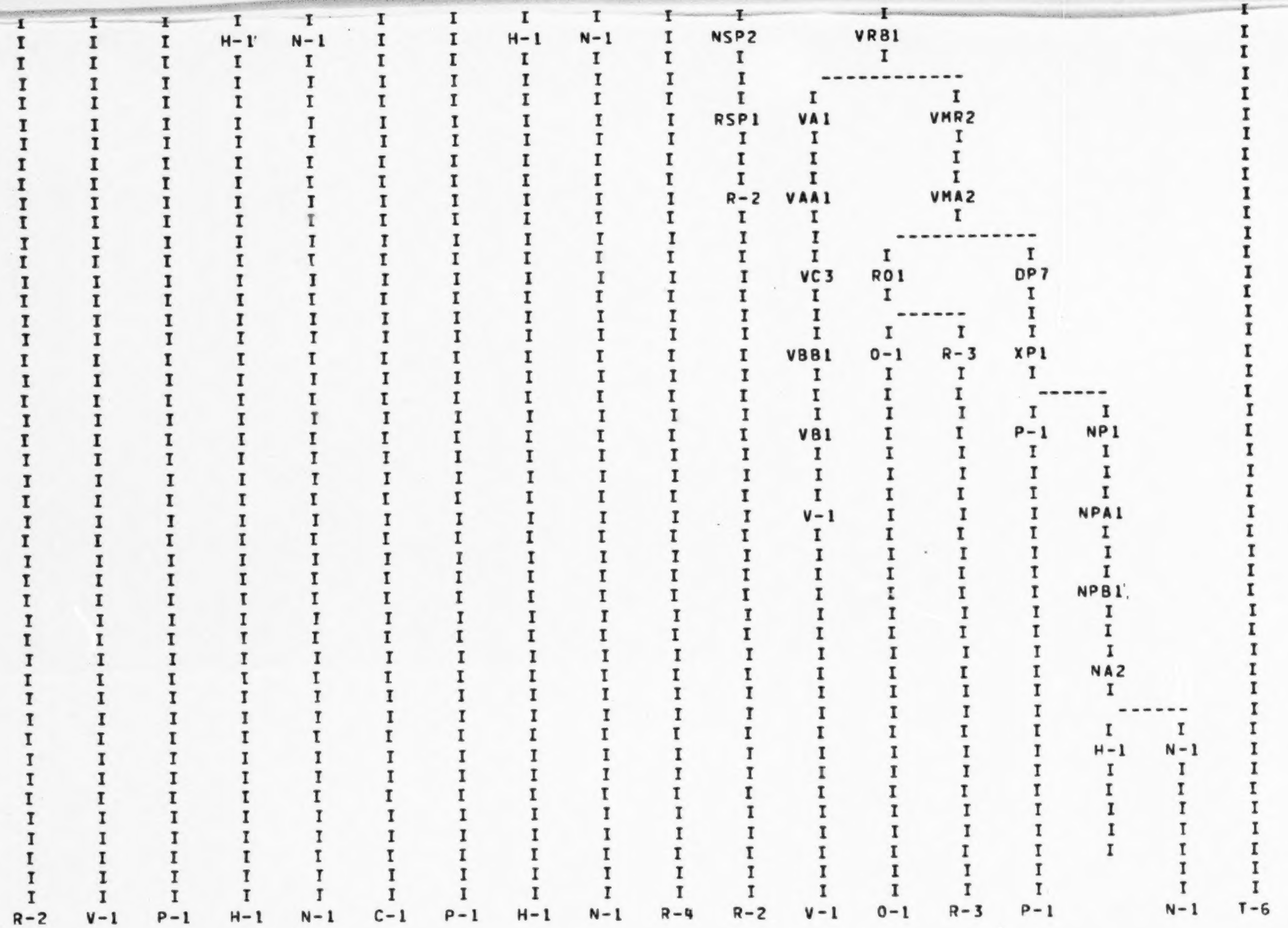
HWA KTB OL HSDWT WCL HYORYM ASR RAH AWTM BKPR.

This is Classical. Modern Hebrew prefers שראה אותם or שאותם ראה.

```
        EQUIVALENT ENGLISH SENTENCE-
        HE WROTE ABOUT THE FIELDS AND FORESTS WHICH HE SAW IN THE VILLAGE.       10A

         TREE DIAGRAM OF HEBREW SENTENCE

                                                        SC1
                                                         I
        ---------------------------------------------------------------------------------------------------
        I                                                                                                 I
       S-1                                                                                               T-6
        I                                                                                                 I
        I                                                                                                 I
        I                                                                                                 I
       SA3                                                                                                I
        I                                                                                                 I
        I                                                                                                 I
        I                                                                                                 I
      SAB1                                                                                                I
        I                                                                                                 I
   -------------                                                                                          I
  I           I                                                                                           I
NSP2         VP1                                                                                          I
  I           I                                                                                           I
  I      -------------------                                                                              I
  I     I                  I                                                                              I
RSP1   VA1                VM5                                                                             I
  I     I                  I                                                                              I
  I     I                  I                                                                              I
  I     I                  I                                                                              I
 R-2  VAA1                XP1                                                                             I
  I     I                  I                                                                              I
  I     I      -------------------------------                                                            I
  I     I      I                 I           I                                                            I
  I    VC3     I                C-1          I                                                            I
  I     I      I                 I           I                                                            I
  I     I      -------           I     -------------                                                      I
  I     I      I     I           I     I           I                                                      I
  I   VBB1    P-1   NP-1         I    P-1         NP1                                                     I
  I     I      I     I           I     I           I                                                      I
  I     I      I     I           I     I     --------------------                                         I
  I     I      I     I           I     I     I                  I                                         I
  I    VB1     I   NPA1          I     I   NPA1               NAP3                                        I
  I     I      I     I           I     I     I                  I                                         I
  I     I      I     I           I     I     I                  I                                         I
  I     I      I     I           I     I     I                  I                                         I
  I    V-1     I   NPB1          I     I   NPB1                RG2                                        I
  I     I      I     I           I     I     I                  I                                         I
  I     I      I     I           I     I     I            -------------                                   I
  I     I      I     I           I     I     I            I           I                                   I
  I     I      I    NA2          I     I    NA2          R-4        SR02                                  I
  I     I      I     I           I     I     I            I           I                                   I
  I     I      I      ------     I     I      ------      I     -------------                             I
```


NSP2
VRB1
RSP1
VA1
VMR2
R-2
VAA1
VMA2
VC3
R01
DP7
VBB1
O-1
R-3
XP1
VB1
P-1
NP1
V-1
NPA1
NPB1
NA2
H-1
N-1
H-1'
N-1
H-1
N-1
R-2
V-1
P-1
H-1
N-1
C-1
P-1
H-1
N-1
R-4
R-2
V-1
O-1
R-3
P-1
N-1
T-6

```
RESULTANT HEBREW SENTENCE-

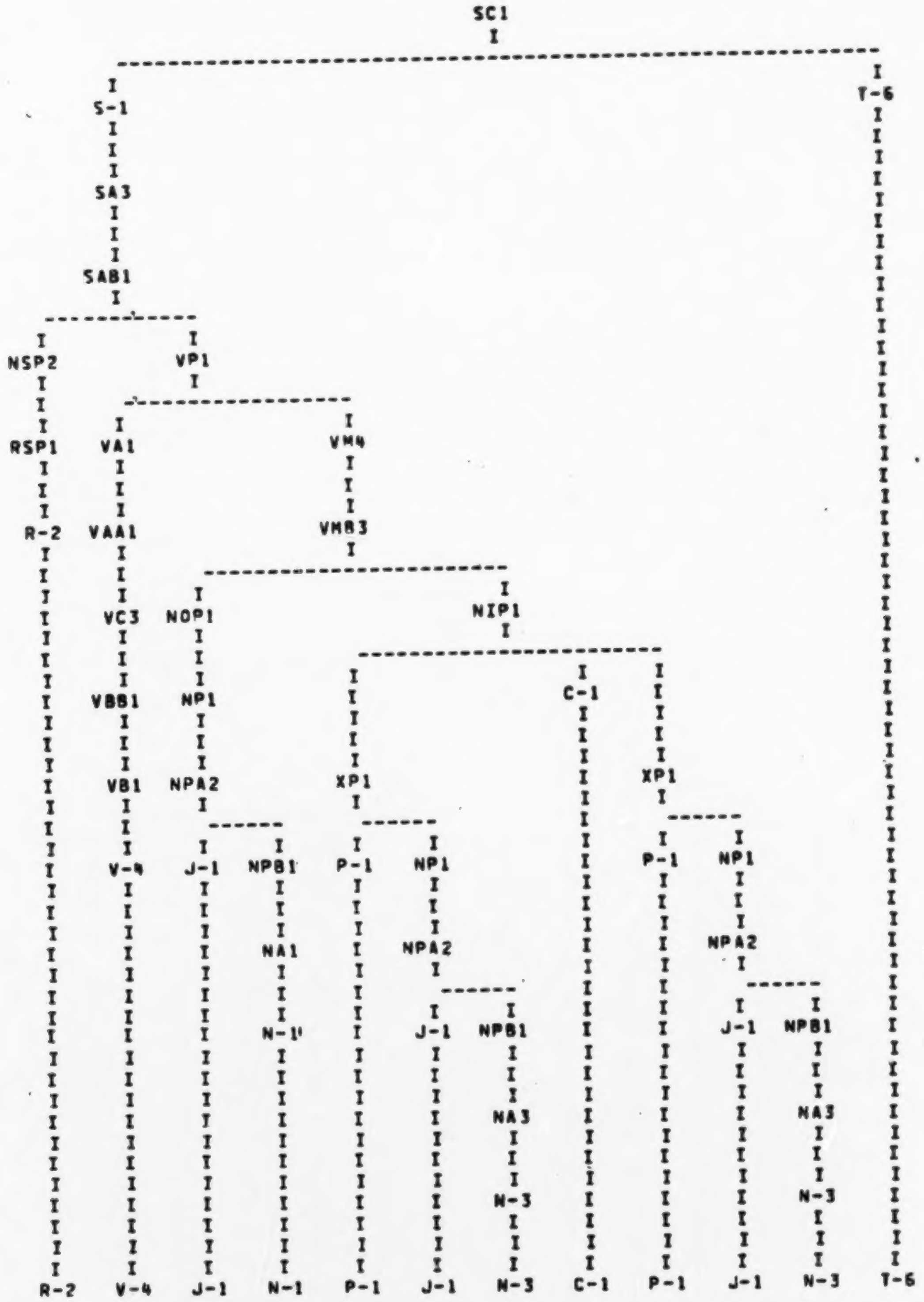
HWA KTB OL HSDWT WOL HYORYM ASR HWA RAH AWTM BKPR.
```

Should be:

HWA KTB OL HSDWT WOL HYORYM SHWA RAH BKPR.

EQUIVALENT ENGLISH SENTENCE-
HE WROTE MANY POEMS ABOUT THE LAND OF ISRAEL AND THE PEOPLE OF ISRAEL. 11

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA3
SAB1
NSP2
VP1
RSP1
VA1
VM4
R-2
VAA1
VMB3
VC3
NOP1
NIP1
VBB1
NP1
C-1
VB1
NPA2
XP1
XP1
V-4
J-1
NPB1
P-1
NP1
P-1
NP1
NA1
NPA2
NPA2
N-1
J-1
NPB1
J-1
NPB1
NA3
NA3
N-3
N-3
R-2
V-4
J-1
N-1
P-1
J-1
N-3
C-1
P-1
J-1
N-3
T-6

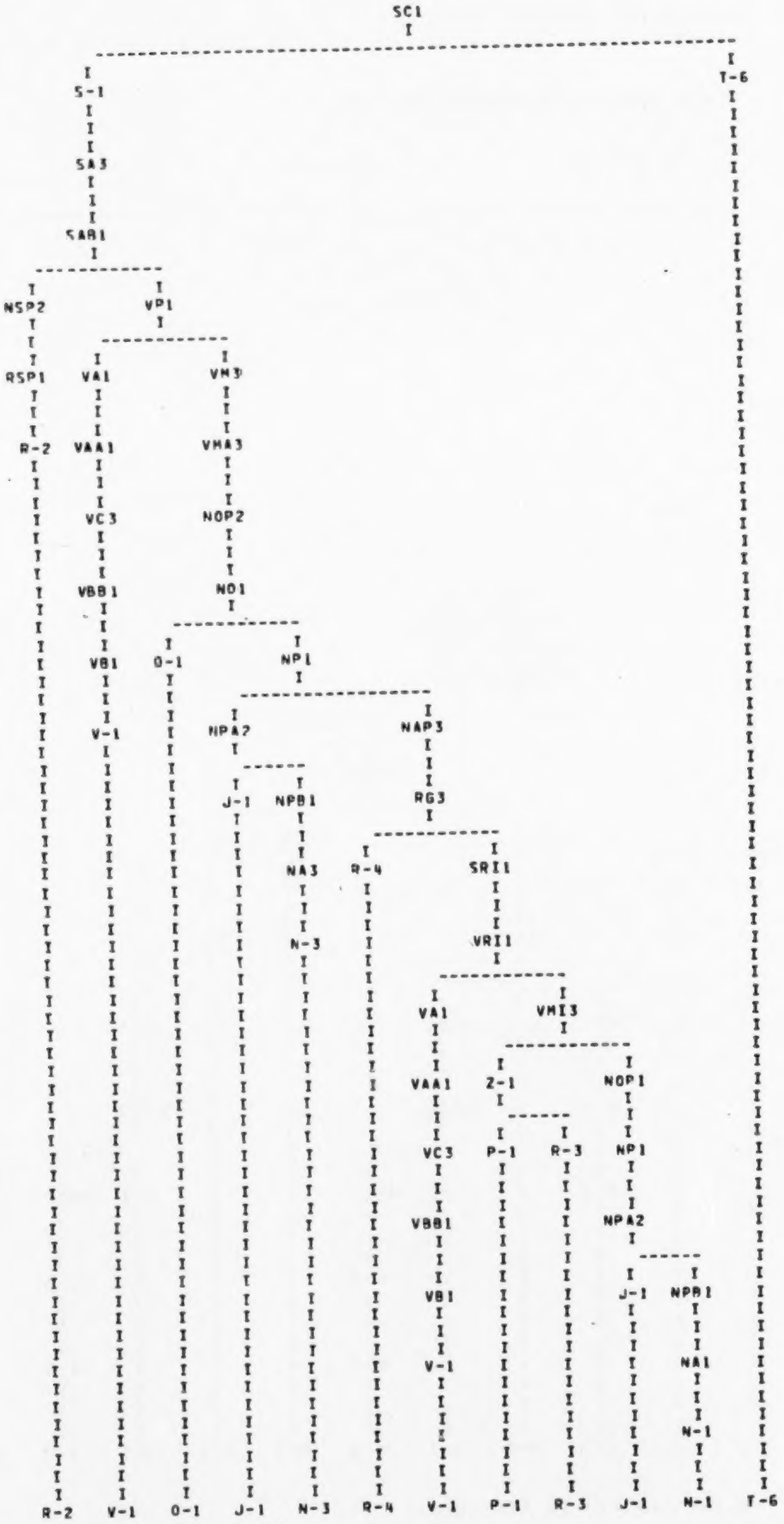
RESULTANT HEBREW SENTENCE-

H¢A KTB HRBH SYRYM OL ARE YSRAL WOL OM YSRAL.†

171

EQUIVALENT ENGLISH SENTENCE-
HE LOVED THE LAND OF ISRAEL ABOUT WHICH HE WROTE MANY POEMS. 11A

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA3
SAB1
NSP2
VP1
RSP1
VA1
VM3
R-2
VAA1
VMA3
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VBB1
NO1
VB1
O-1
NP1
V-1
NPA2
NAP3
J-1
NPB1
RG3
NA3
R-4
SRI1
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VRI1
VA1
VMI3
VAA1
Z-1
NOP1
VC3
P-1
R-3
NP1
VBB1
NPA2
VB1
J-1
NPB1
V-1
NA1
N-1
R-2
V-1
O-1
J-1
N-3
R-4
V-1
P-1
R-3
J-1
N-1
T-6

RESULTANT HEBREW SENTENCE-

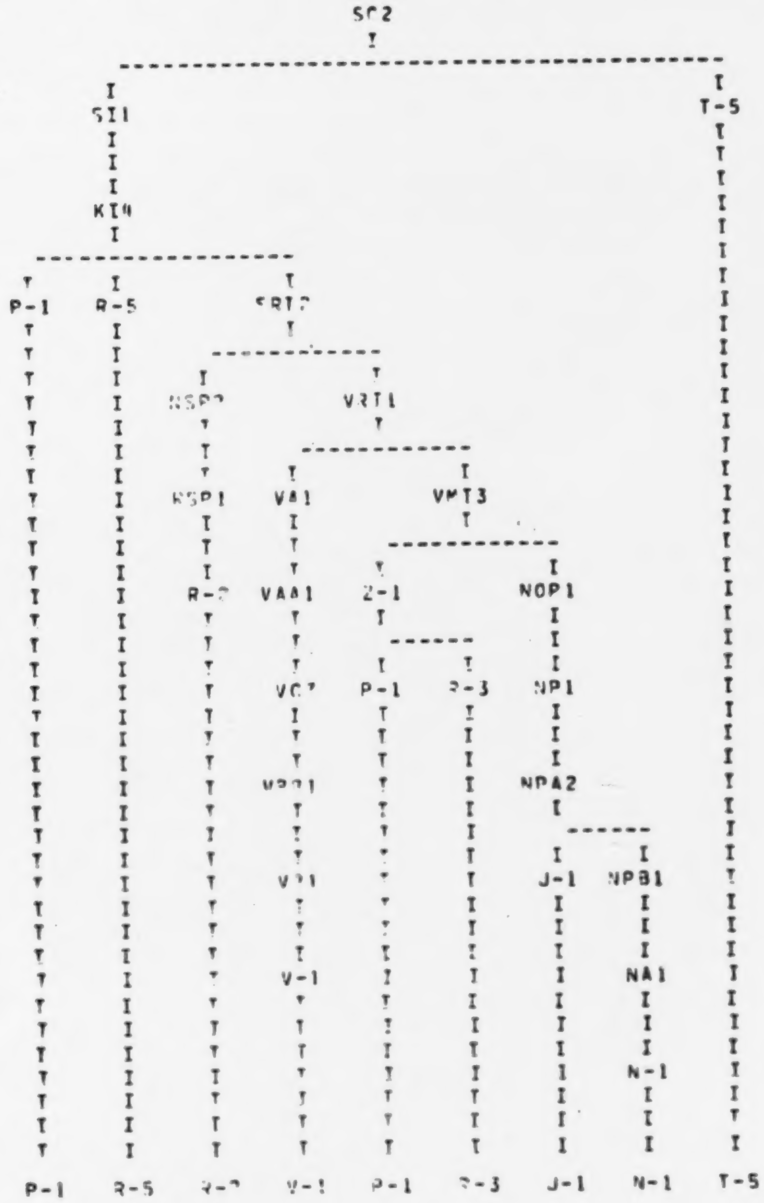
HWA AHB AT ARS YSRAL ASR KTB OLYH HRBH SYRYM.

This is Classical. Modern Hebrew prefers שעליה כתב.

172

EQUIVALENT ENGLISH SENTENCE-
ABOUT WHAT DID HE WRITE MANY POEMS?

TREE DIAGRAM OF HEBREW SENTENCE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SI1
KIN
P-1
R-5
SRI2
NSP2
VRT1
NSP1
VA1
VMT3
R-2
VAA1
Z-1
NOP1
VC7
P-1
R-3
NP1
VPR1
NPA2
V21
J-1
NPB1
V-1
NA1
N-1
T-5
P-1
R-5
R-2
V-1
P-1
R-3
J-1
N-1
T-5

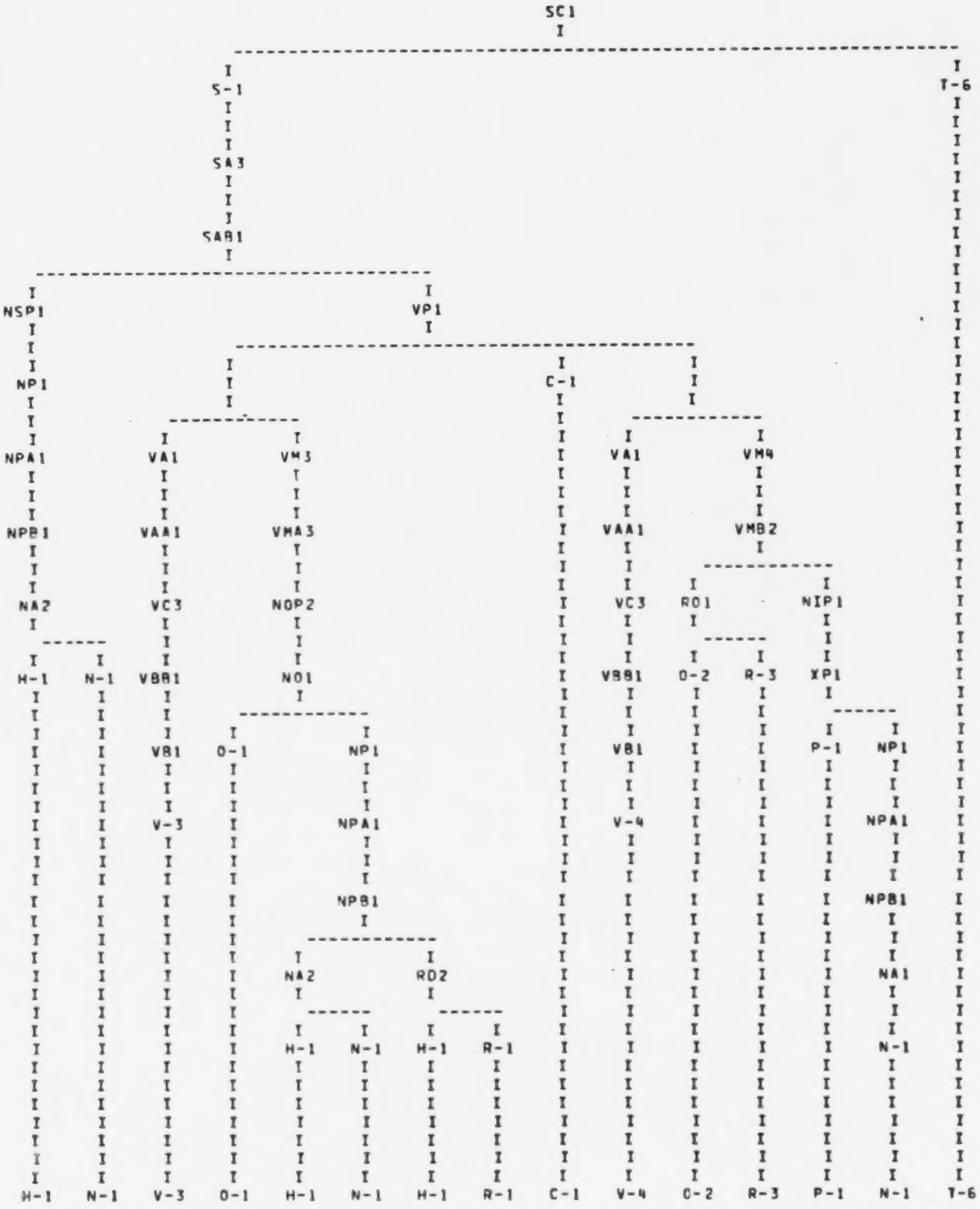
RESULTANT HEBREW SENTENCE-

OL MH HWA KTB OLYHM HRBH SYRYM?

Error. There should be no עליהם.

EQUIVALENT ENGLISH SENTENCE-
THE STUDENTS LEARNED THE POEMS AND KNEW THEM BY HEART. 12

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA3
SAB1
NSP1
VP1
NP1
C-1
NPA1
VA1
VM3
VA1
VM4
NPB1
VAA1
VMA3
VAA1
VMB2
NA2
VC3
NOP2
VC3
RO1
NIP1
H-1
N-1
VBB1
NO1
VBB1
O-2
R-3
XP1
VB1
O-1
NP1
VB1
P-1
NP1
V-3
NPA1
V-4
NPA1
NPB1
NPB1
NA2
RO2
NA1
H-1
N-1
H-1
R-1
N-1
H-1
N-1
V-3
O-1
H-1
N-1
H-1
R-1
C-1
V-4
O-2
R-3
P-1
N-1
T-6

RESULTANT HEBREW SENTENCE-

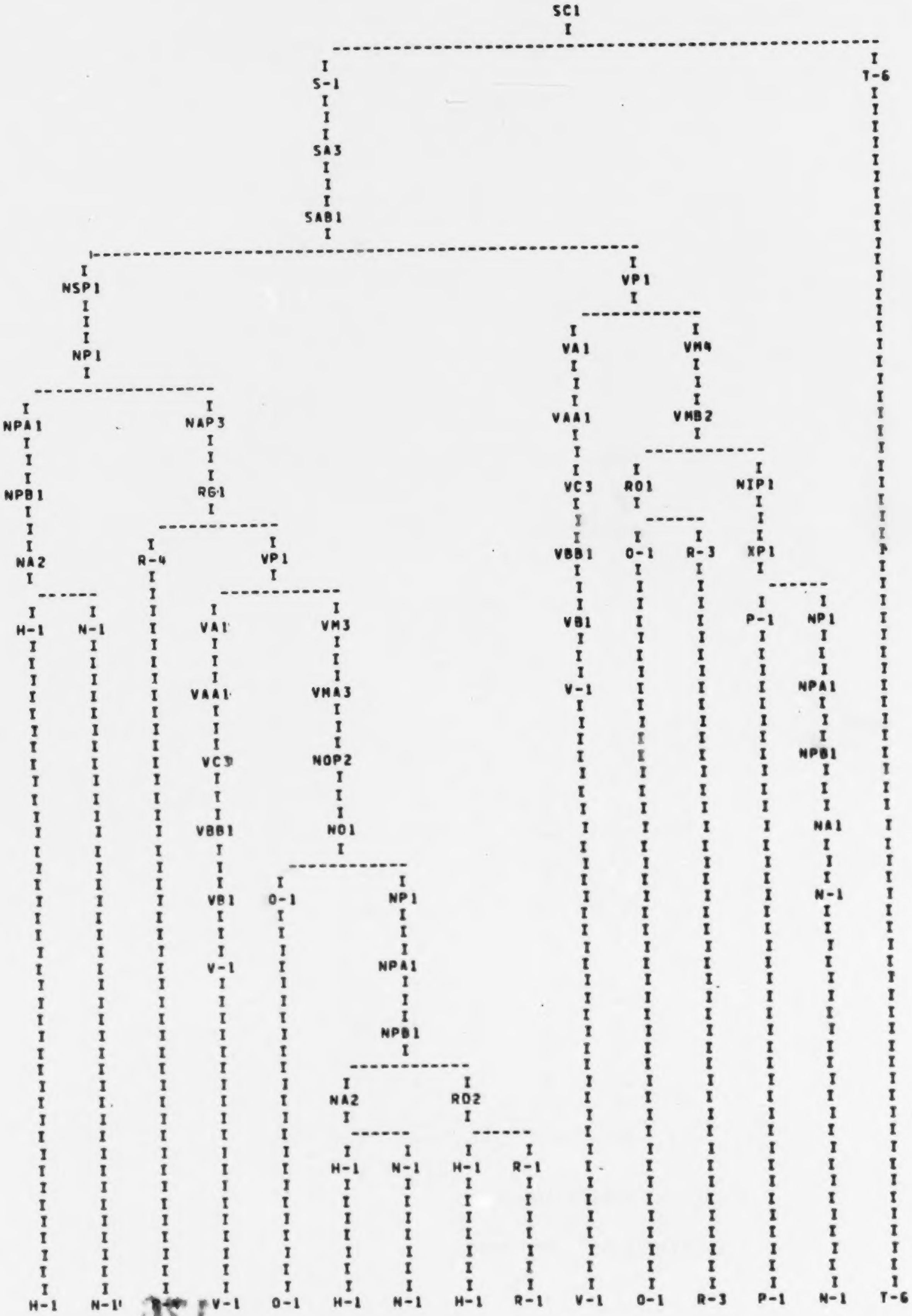
172

HTLMYDYM LMDW AT HSYRYM HALH WYDOW AWTM OL PH.

174

EQUIVALENT ENGLISH SENTENCE-
THE STUDENTS WHO LEARNED THE POEMS KNEW THEM BY HEART. 12A

TREE DIAGRAM OF HEBREW SENTENCE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S-1
T-6
SA3
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VA1
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NAP3
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VMB2
NPB1
RG1
VC3
RO1
NIP1
NA2
R-4
VP1
VBB1
O-1
R-3
XP1
H-1
N-1
VA1
VM3
VB1
P-1
NP1
VAA1
VMA3
V-1
NPA1
VC3
NOP2
NPB1
VBB1
NO1
NA1
VB1
O-1
NP1
N-1
V-1
NPA1
NPB1
NA2
RO2
H-1
N-1
H-1
R-1
H-1
N-1
R-4
V-1
O-1
H-1
N-1
H-1
R-1
V-1
O-1
R-3
P-1
N-1
T-6

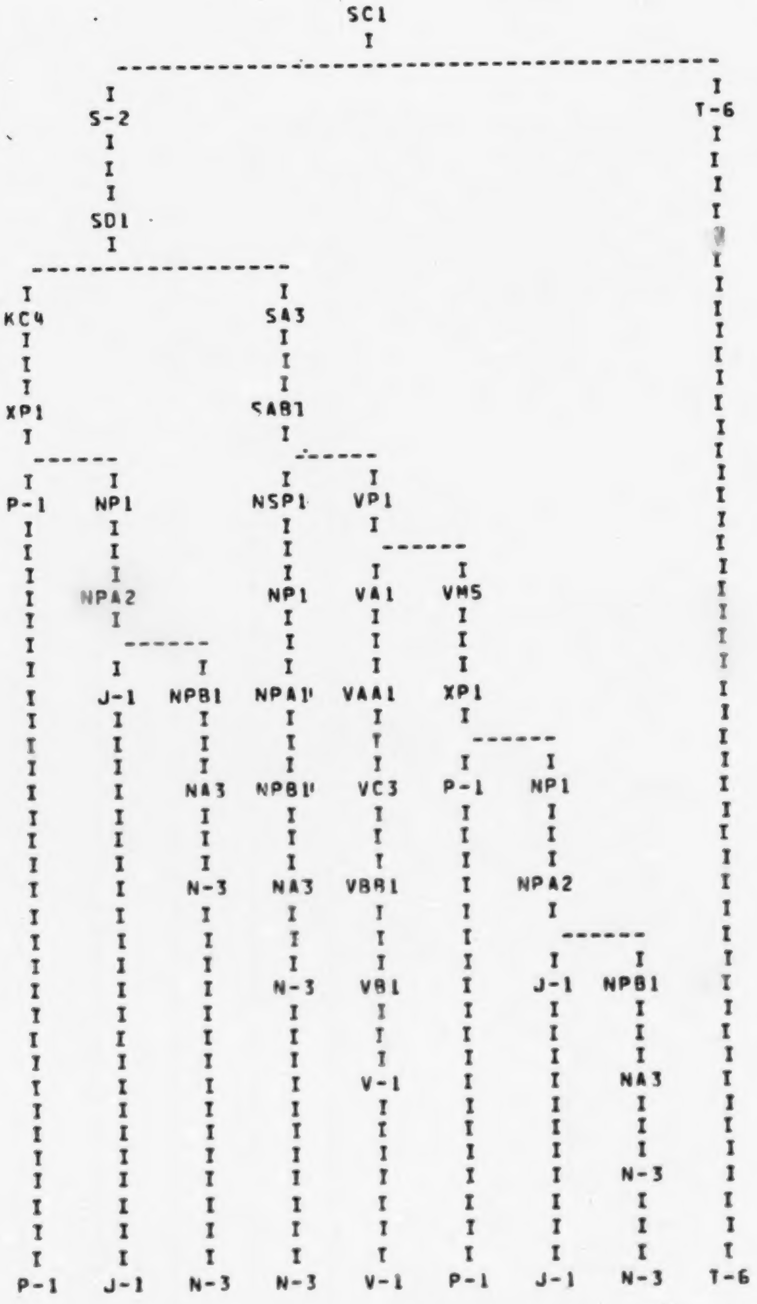
RESULTANT HEBREW SENTENCE-

HTLMYDYM ASR LMDW AT HSYRYM HALH YDOW AWTM OL PH.

This is Classical. Modern Hebrew prefers שלמדו.

EQUIVALENT ENGLISH SENTENCE-
IN THE YEAR 1924 BIYALIK TRAVELED TO THE LAND OF ISRAEL. 13

TREE DIAGRAM OF HEBREW SENTENCE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VP1
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NPB1
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VC3
P-1
NP1
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VBB1
NPA2
N-3
VB1
J-1
NPB1
V-1
NA3
N-3
P-1
J-1
N-3
N-3
V-1
P-1
J-1
N-3
T-6

RESULTANT HEBREW SENTENCE-

BSNT 1924 BYALYQ NCO LAR8 YSRAL.

176

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EQUIVALENT ENGLISH SENTENCE-
ALL THE JEWS WEPT OVER HIS DEATH, BECAUSE THERE WAS NO POET LIKE HIM IN ISRAEL, 23

 TREE DIAGRAM OF HEBREW SENTENCE
```

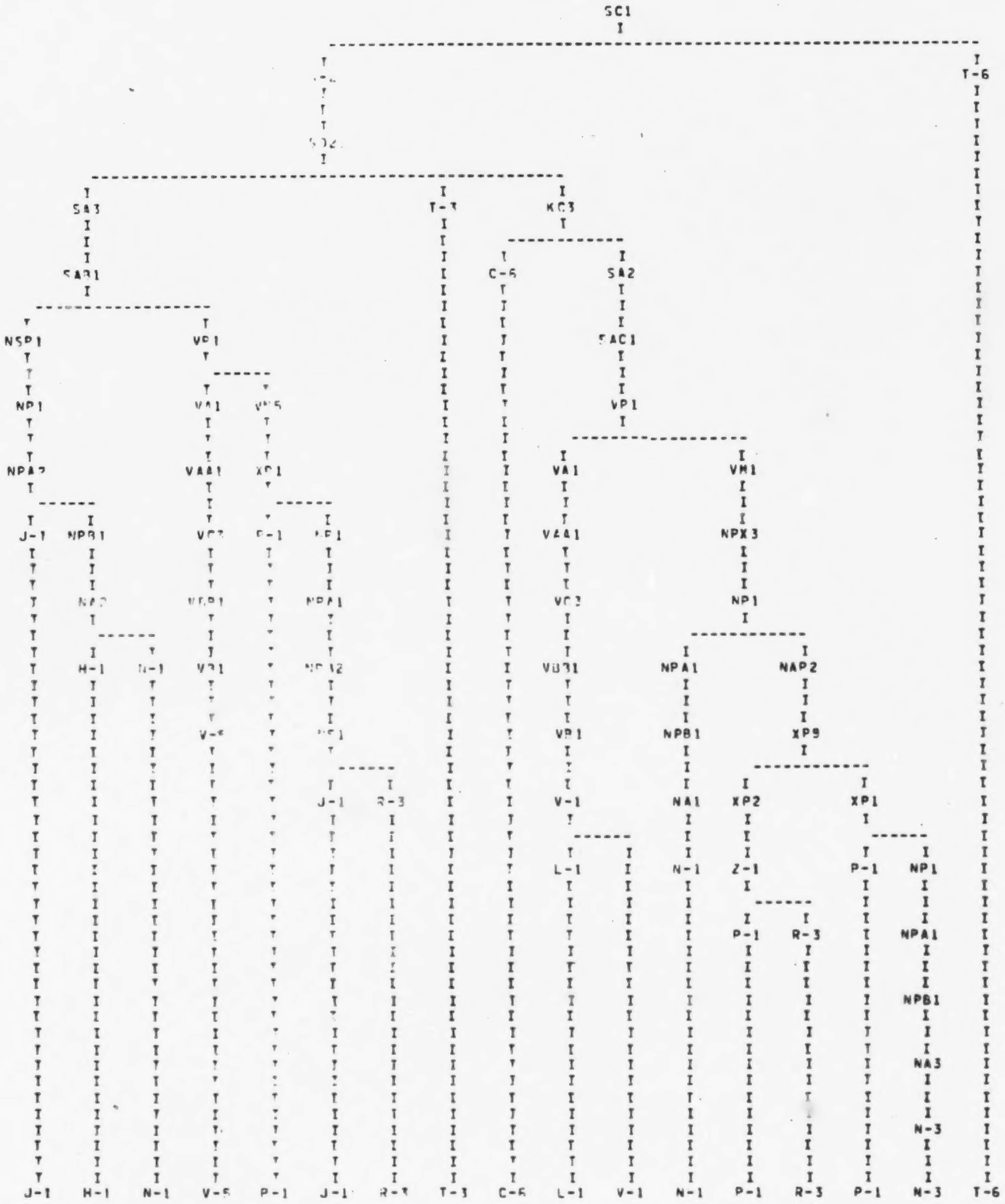
SC1
T-6
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SA3
T-3
KC3
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C-6
SA2
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VP1
SAC1
NP1
VA1
VM5
VP1
NPA2
VAA1
XP1
VA1
VM1
J-1
NPB1
VC2
P-1
NP1
VAA1
NPX3
NA2
NPB1
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VB31
NPA1
NAP2
V-5
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VP1
NPB1
XP9
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R-3
V-1
NA1
XP2
XP1
L-1
N-1
Z-1
P-1
NP1
P-1
R-3
NPA1
NPB1
NA3
N-3
J-1
H-1
N-1
V-5
P-1
J-1
R-3
T-3
C-6
L-1
V-1
N-1
P-1
R-3
P-1
N-3
T-6

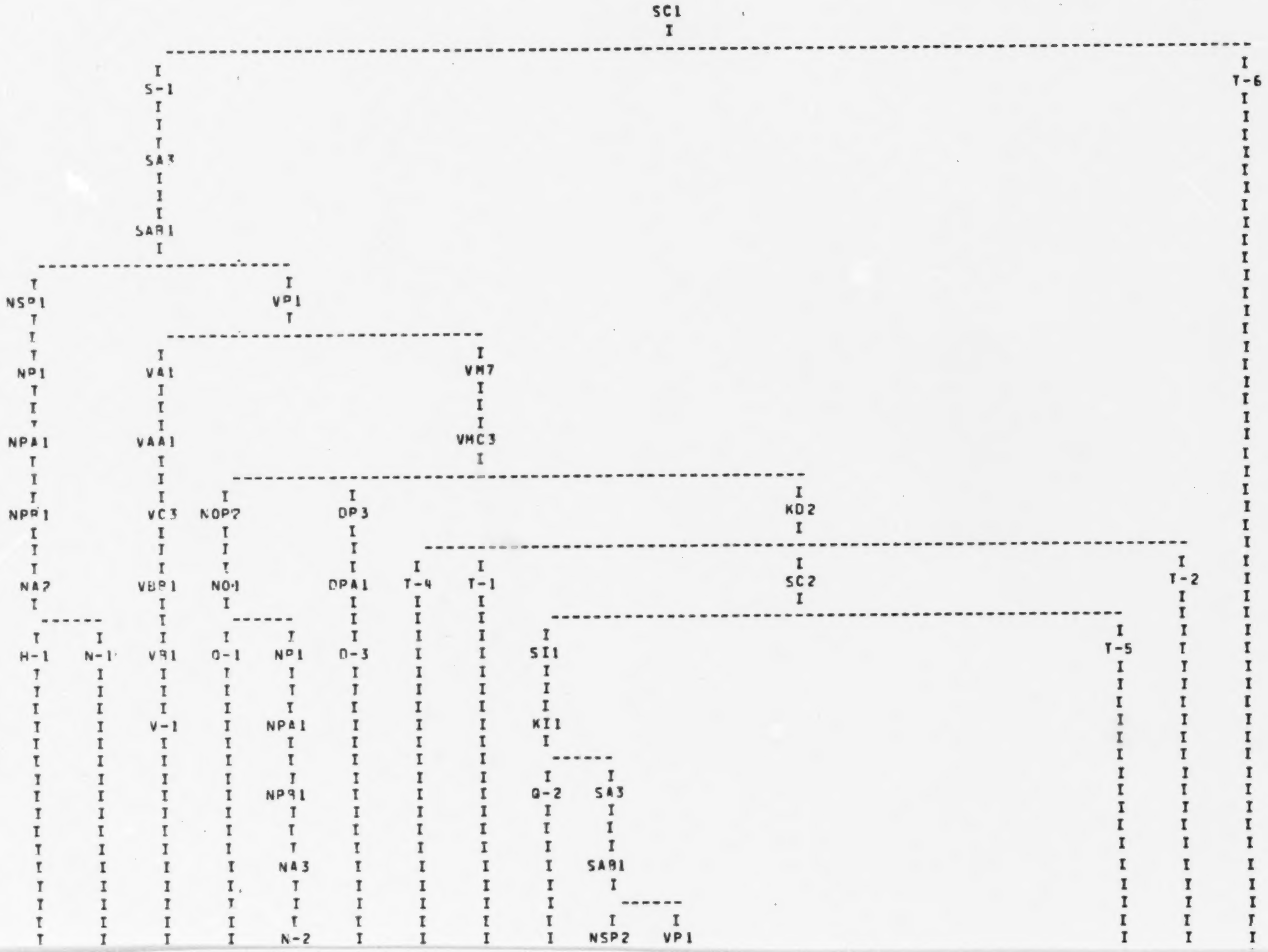
```
RESULTANT HEBREW SENTENCE-

KL HYHVDYM BKW OL MVTV, KY LWA HYH MSWRR KMWHW BYSRAL.
```

כי is Classical. Modern Hebrew uses מכיון ש-.

EQUIVALENT ENGLISH SENTENCE-
ONETIME GRANDFATHER ASKED URI,''DO YOU WANT TO SEE THE SYNAGOGUE?''   26A

TREE DIAGRAM OF HEBREW SENTENCE


SC1
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SA3
SAB1
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VP1
NP1
VA1
VM7
NPA1
VAA1
VMC3
NPB1
VC3
NOP2
DP3
KD2
NA2
VBB1
NO1
DPA1
T-4
T-1
SC2
T-2
T-6
H-1
N-1
VB1
O-1
NP1
D-3
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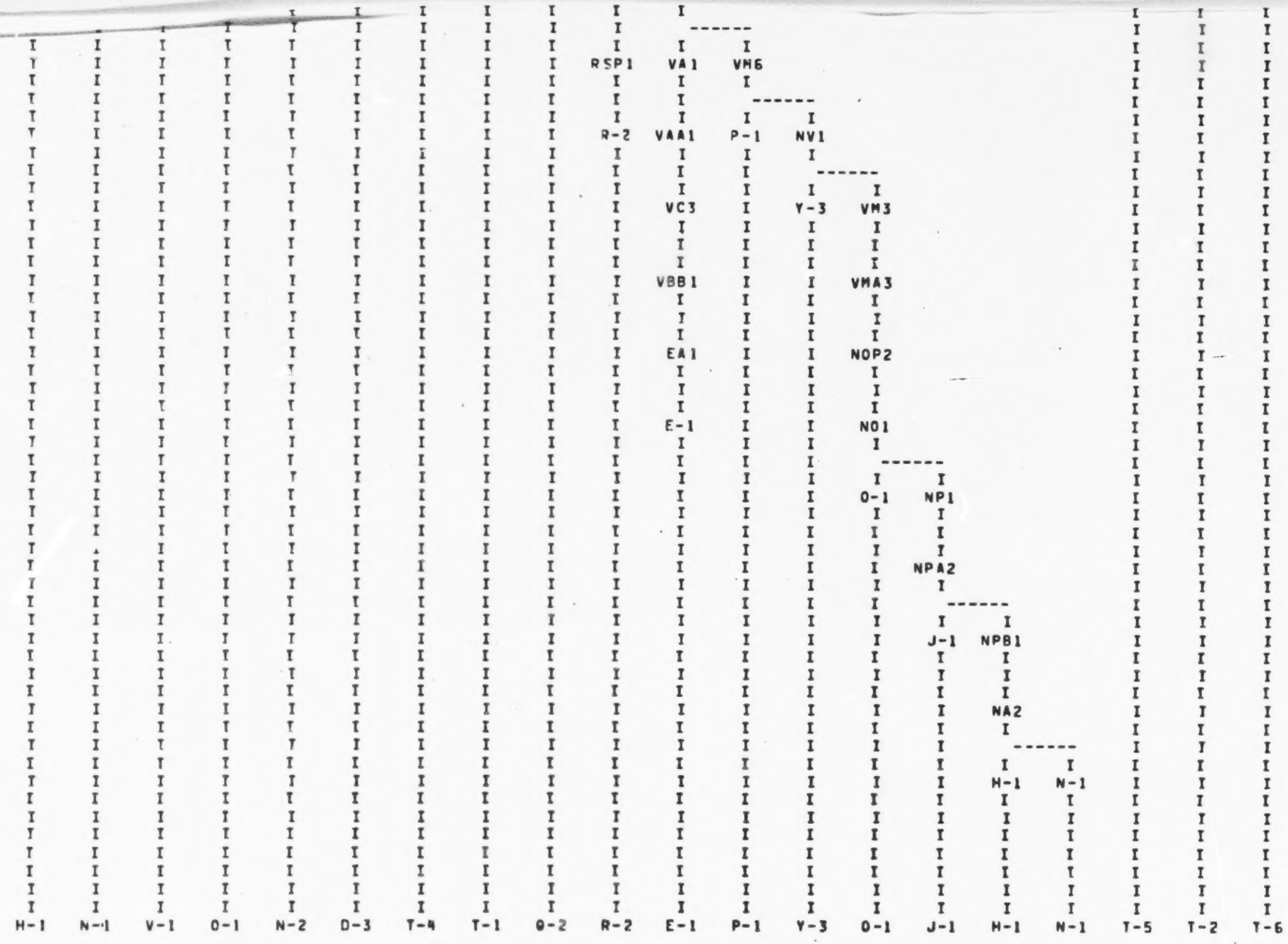
SAB1
N-2
NSP2
VP1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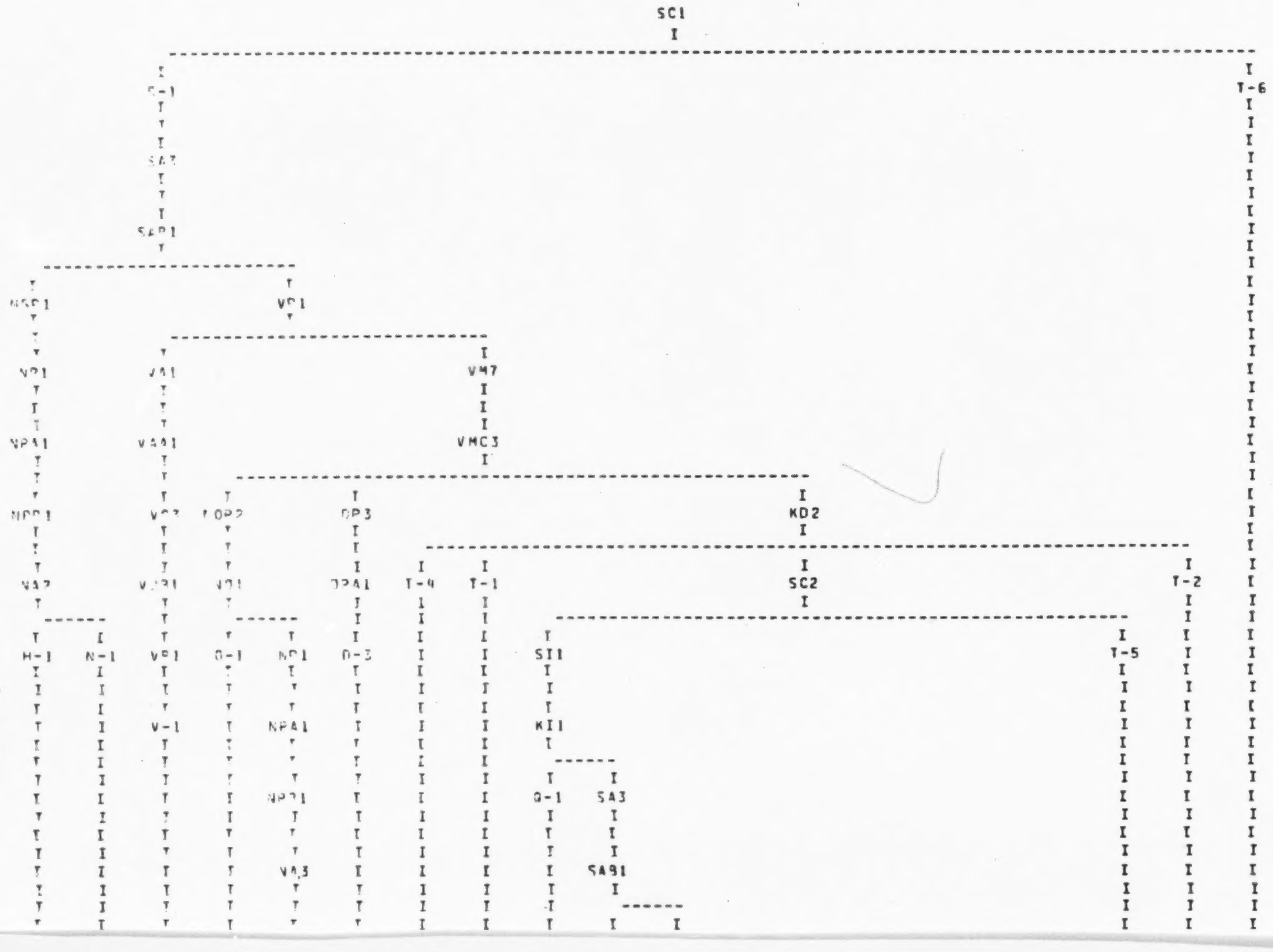
VM6
R-2
VAA1
P-1
NV1
VC3
Y-3
VM3
VBB1
VMA3
EA1
NOP2
E-1
NO1
O-1
NP1
NPA2
J-1
NPB1
NA2
H-1
N-1
H-1
N-1
V-1
O-1
N-2
D-3
T-4
T-1
Q-2
R-2
E-1
P-1
Y-3
O-1
J-1
H-1
N-1
T-5
T-2
T-6

RESULTANT HEBREW SENTENCE-

HCR SAL AT AWRY POM: ''HAM ATH RWCH LRAWT AT BYT HKNCT?''.

EQUIVALENT ENGLISH SENTENCE-
ONETIME GRANDFATHER ASKED UPI,**DO YOU WANT TO SEE THE SYNAGOGUE?** 26AA

TREE DIAGRAM OF HEBREW SENTENCE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T-6
SA7
SAP1
NSP1
VP1
NP1
VA1
VM7
NPA1
VAA1
VMC3
NPP1
KOP2
DP3
KD2
NA2
DPA1
T-4
T-1
SC2
T-2
H-1
N-1
VP1
O-1
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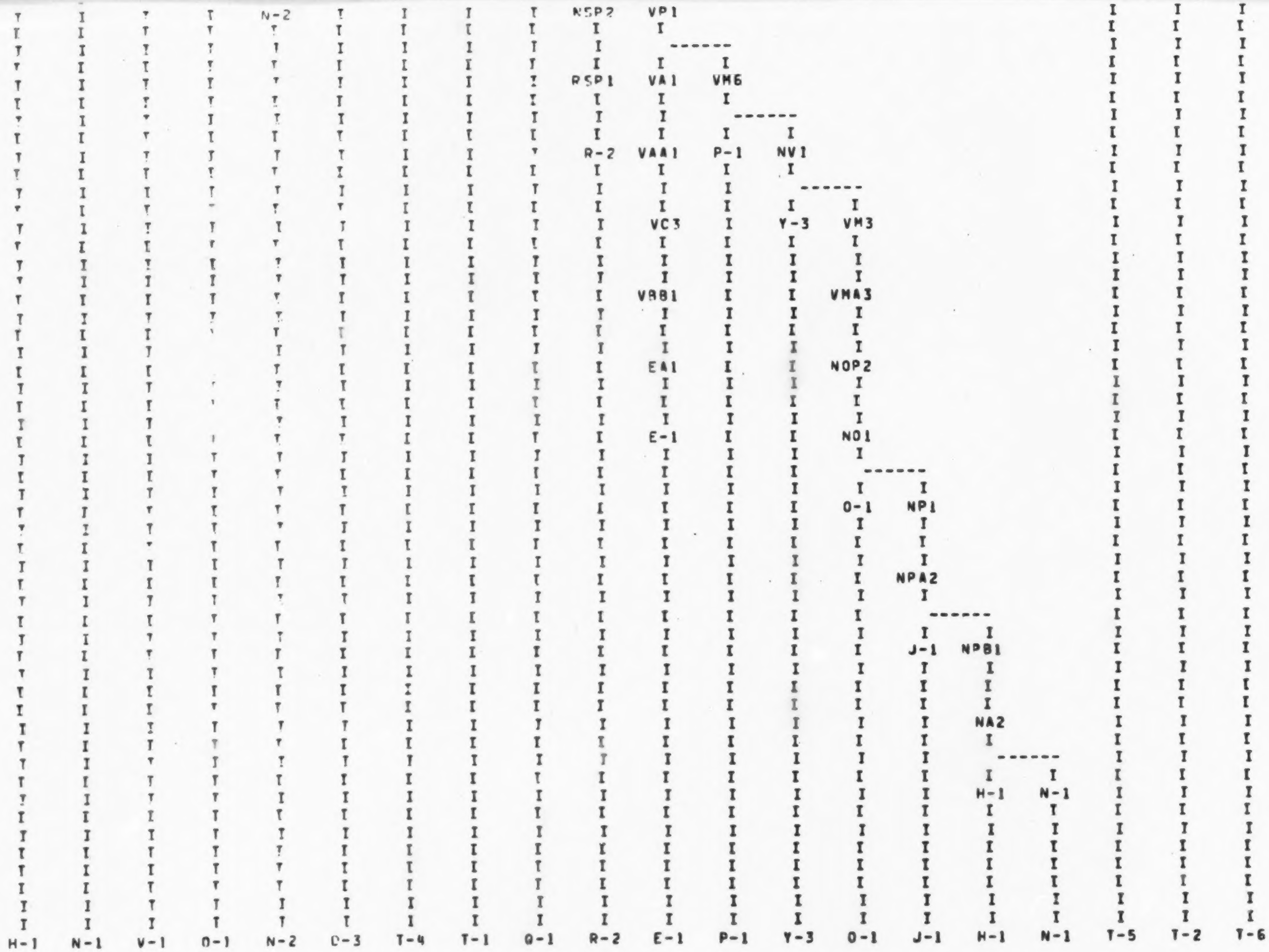
Q-1
SA3
NPP1
VA3
SA91

2-171



N-2
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VP1
RSP1
VA1
VM6
R-2
VAA1
P-1
NV1
VC3
Y-3
VM3
VBB1
VMA3
EA1
NOP2
E-1
NO1
O-1
NP1
NPA2
J-1
NPB1
NA2
H-1
N-1
H-1
N-1
V-1
O-1
N-2
O-3
T-4
T-1
Q-1
R-2
E-1
P-1
Y-3
O-1
J-1
H-1
N-1
T-5
T-2
T-6

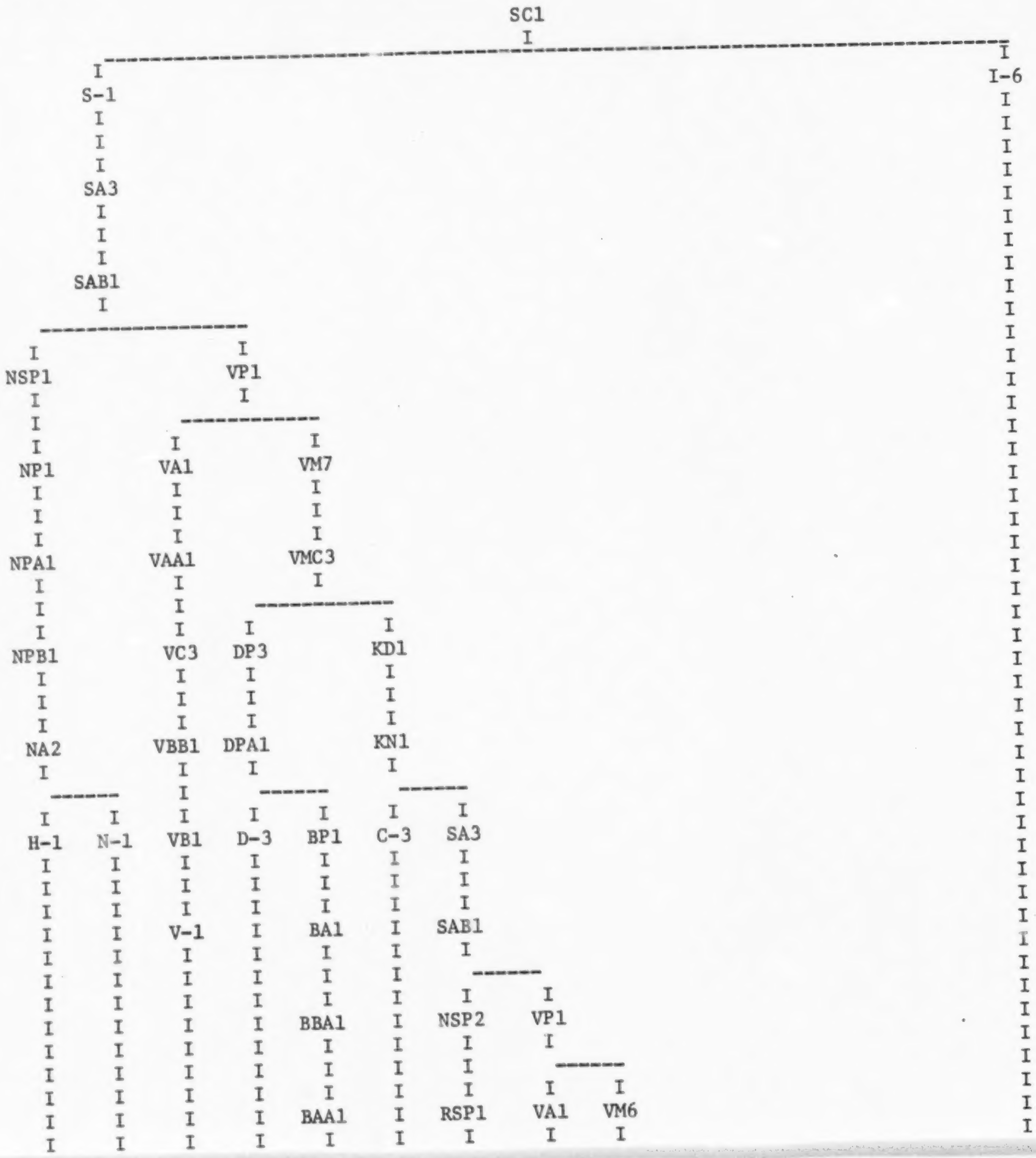
RESULTANT HEBREW SENTENCE-

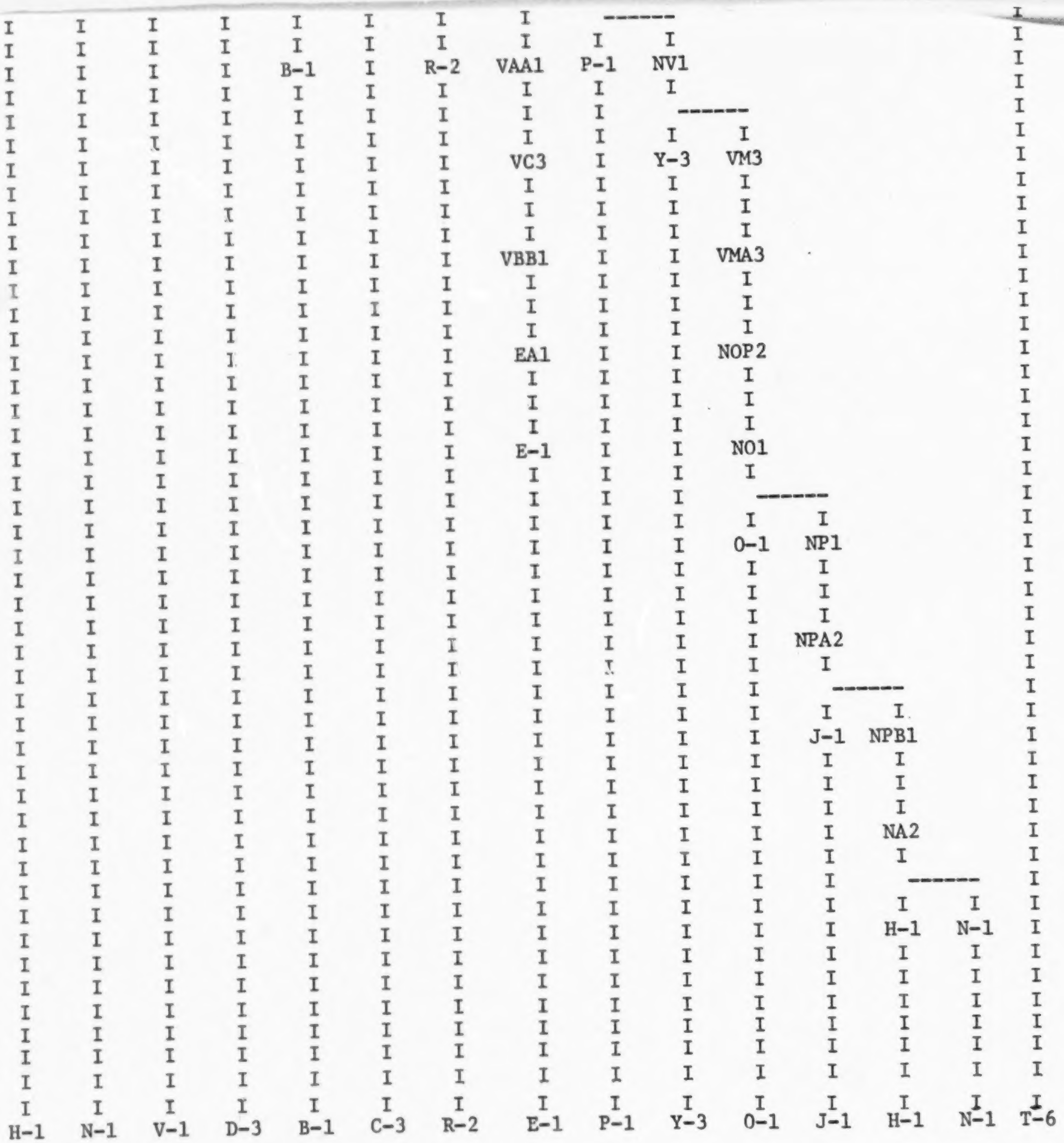
HCP SAL AT AWRY POM: ''HATH RWSH LRAWT AT BYT HKNCT?''.

The use of ה is Classical, but התרצה אתה is preferred.

EQUIVALENT ENGLISH SENTENCE-
ONE TIME GRANDFATHER SAID THAT HE WANTS TO SEE THE SYNAGOGUE.

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
I-6
SA3
SAB1
NSP1
VP1
NP1
VA1
VM7
NPA1
VAA1
VMC3
NPB1
VC3
DP3
KD1
NA2
VBB1
DPA1
KN1
H-1
N-1
VB1
D-3
BP1
C-3
SA3
V-1
BA1
SAB1
BBA1
NSP2
VP1
BAA1
RSP1
VA1
VM6



B-1
R-2
VAA1
P-1
NV1
VC3
Y-3
VM3
VBB1
VMA3
EA1
NOP2
E-1
NO1
O-1
NP1
NPA2
J-1
NPB1
NA2
H-1
N-1
H-1
N-1
V-1
D-3
B-1
C-3
R-2
E-1
P-1
Y-3
O-1
J-1
H-1
N-1
T-6

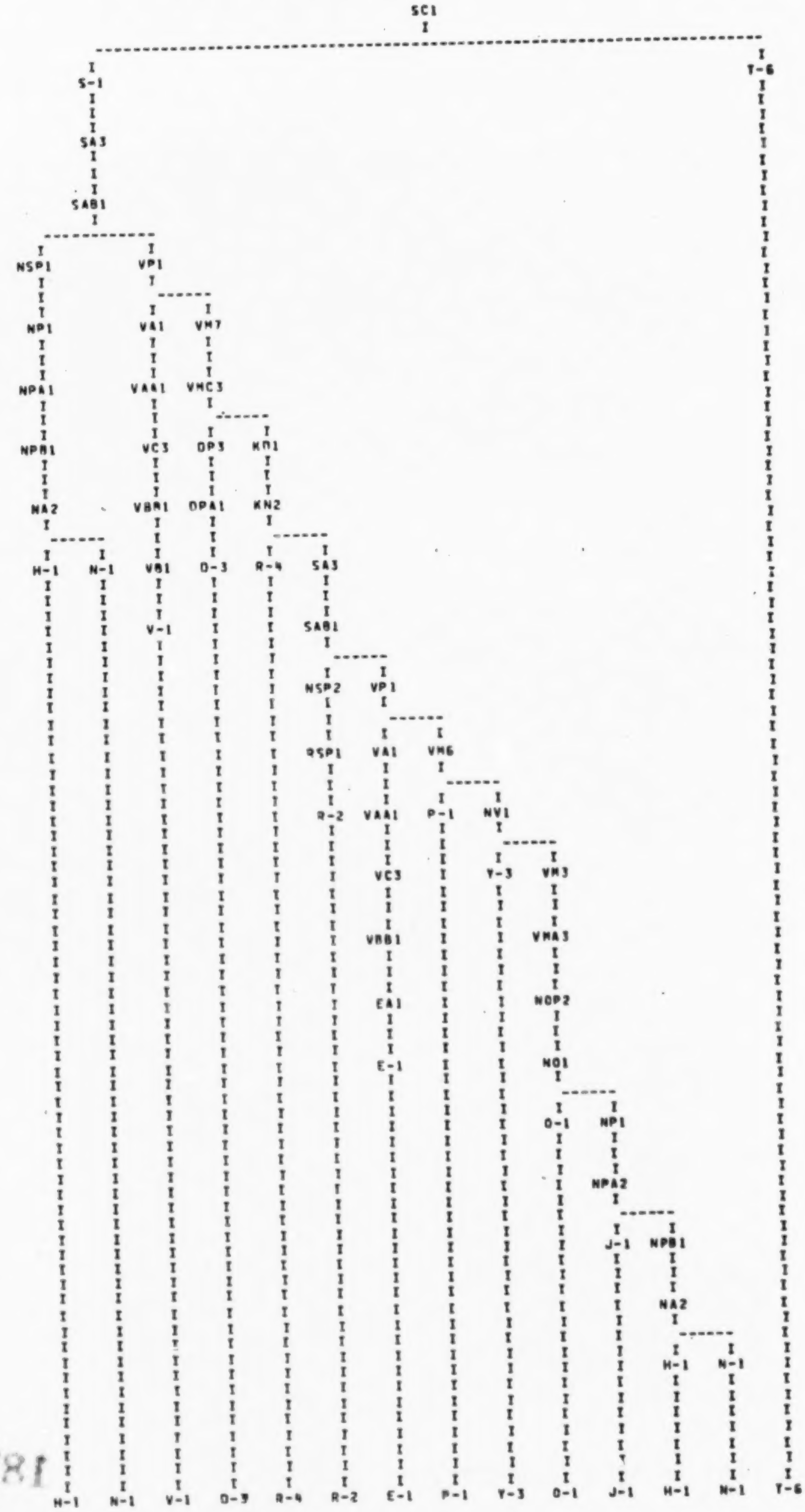
RESULTANT HEBREW SENTENCE-

HCB AMR POM AXD KY HWA RW&H LRAWT AT BYT HKNCT.

The use of KY is classical. Modern Hebrew uses SHWA RW&H ...

EQUIVALENT ENGLISH SENTENCE-
ONE TIME GRANDFATHER SAID THAT HE WANTS TO SEE THE SYNAGOGUE. 26C

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA3
SAB1
NSP1
VP1
NP1
VA1
VM7
NPA1
VAA1
VMC3
NPB1
VC3
OP3
KN1
NA2
VBB1
OPA1
KN2
H-1
N-1
VB1
O-3
R-4
SA3
V-1
SAB1
NSP2
VP1
RSP1
VA1
VM6
R-2
VAA1
P-1
NV1
VC3
Y-3
VM3
VBB1
VMA3
EA1
NOP2
E-1
NO1
O-1
NP1
NPA2
J-1
NPB1
NA2
H-1
N-1
H-1
N-1
V-1
O-3
R-4
R-2
E-1
P-1
Y-3
O-1
J-1
H-1
N-1
T-6

RESULTANT HEBREW SENTENCE-

HCR AMR POM SHWA RWBH LRAWT AT BYT HKNCT.

EQUIVALENT ENGLISH SENTENCE-
JOSEPH DOES NOT HAVE A ROOM.

101A

TREE DIAGRAM OF HEBREW SENTENCE

```
           SC1
            I
      -------------------
      I                 I
     S-1               T-6
      I                 I
      I                 I
      I                 I
     SA1                I
      I                 I
      I                 I
      I                 I
    SAA4                I
      I                 I
 ------------------     I
 I    I           I     I
L-1  XP1        NSP1    I
 I    I           I     I
 I     ------     I     I
 I    I      I    I     I
 I   P-1    NP1  NP1    I
 I    I      I    I     I
 I    I      I    I     I
 I    I      I    I     I
 I    I     NPA1 NPA1   I
 I    I      I    I     I
 I    I      I    I     I
 I    I      I    I     I
 I    I     NPB1 NPB1   I
 I    I      I    I     I
 I    I      I    I     I
 I    I      I    I     I
 I    I     NA3  NA1    I
 I    I      I    I     I
 I    I      I    I     I
 I    I      I    I     I
 I    I     N-2  N-1    I
 I    I      I    I     I
 I    I      I    I     I
 I    I      I    I     I
L-1  P-1    N-2  N-1   T-6
```

RESULTANT HEBREW SENTENCE-

AYN LYWCP XDR.

EQUIVALENT ENGLISH SENTENCE-
JOSEPH HAS A ROOM.

101B

TREE DIAGRAM OF HEBREW SENTENCE

```
            SC1
             I
       -------------------
       I                 I
      S-1               T-6
       I                 I
       I                 I
       I                 I
      SA1                I
       I                 I
       I                 I
       I                 I
      SAA4               I
       I                 I
 ------+------------     I
 I     I           I     I
U-3   XP1        NSP1    I
 I     I           I     I
 I     -------     I     I
 I     I     I     I     I
 I    P-1   NP1   NP1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I     I   NPA1  NPA1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I     I   NPB1  NPB1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I     I    NA3   NA1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I     I    N-2   N-1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
U-3   P-1   N-2   N-1   T-6
```

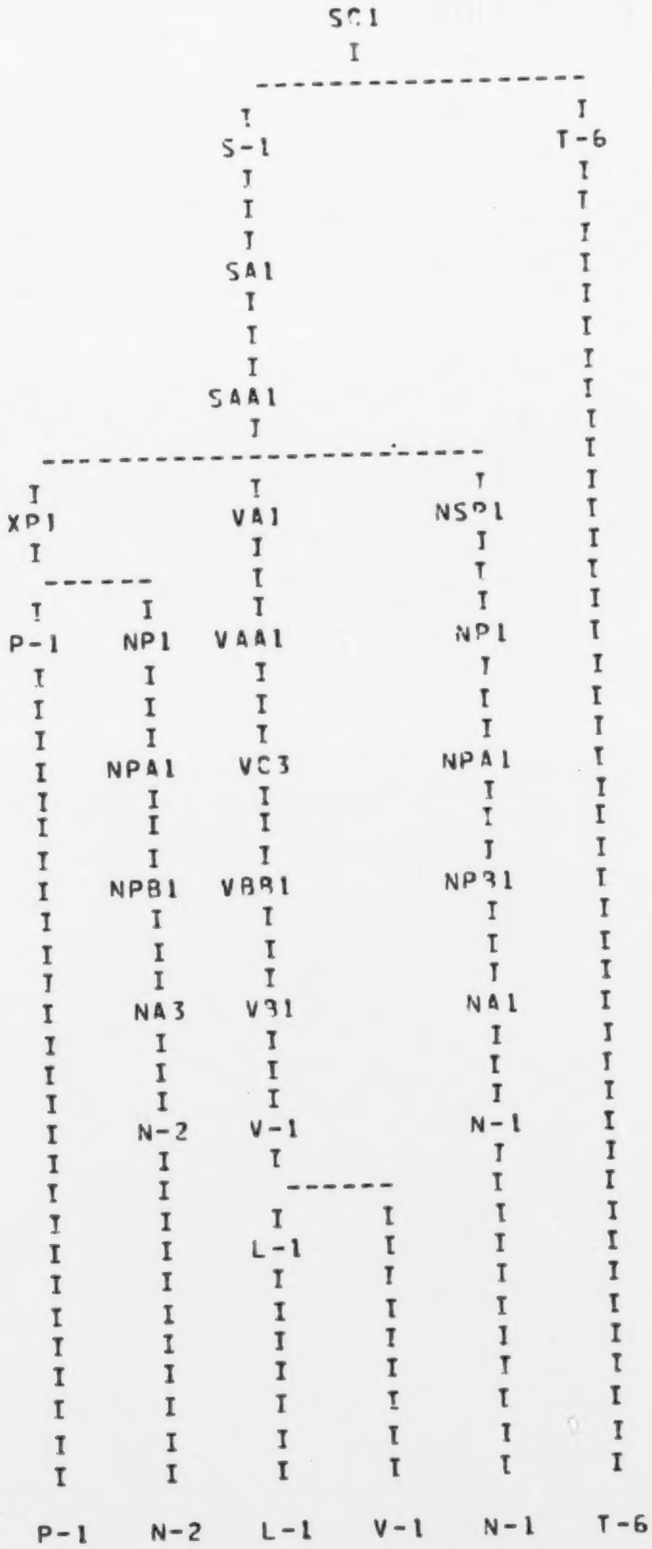
RESULTANT HEBREW SENTENCE-

YS LYWSP XDR.

101

EQUIVALENT ENGLISH SENTENCE-
JOSEPH WILL NOT HAVE A ROOM.

TREE DIAGRAM OF HEBREW SENTENCE


SC1
S-1
T-6
SA1
SAA1
XP1
VA1
NSP1
P-1
NP1
VAA1
NP1
NPA1
VC3
NPA1
NPB1
VBB1
NPB1
NA3
VB1
NA1
N-2
V-1
N-1
L-1
P-1
N-2
L-1
V-1
N-1
T-6

RESULTANT HEBREW SENTENCE-

LYWCP LWA YHYH XDR.

2.3.2 Tree Diagrams Of Computer Analyzed Sentences

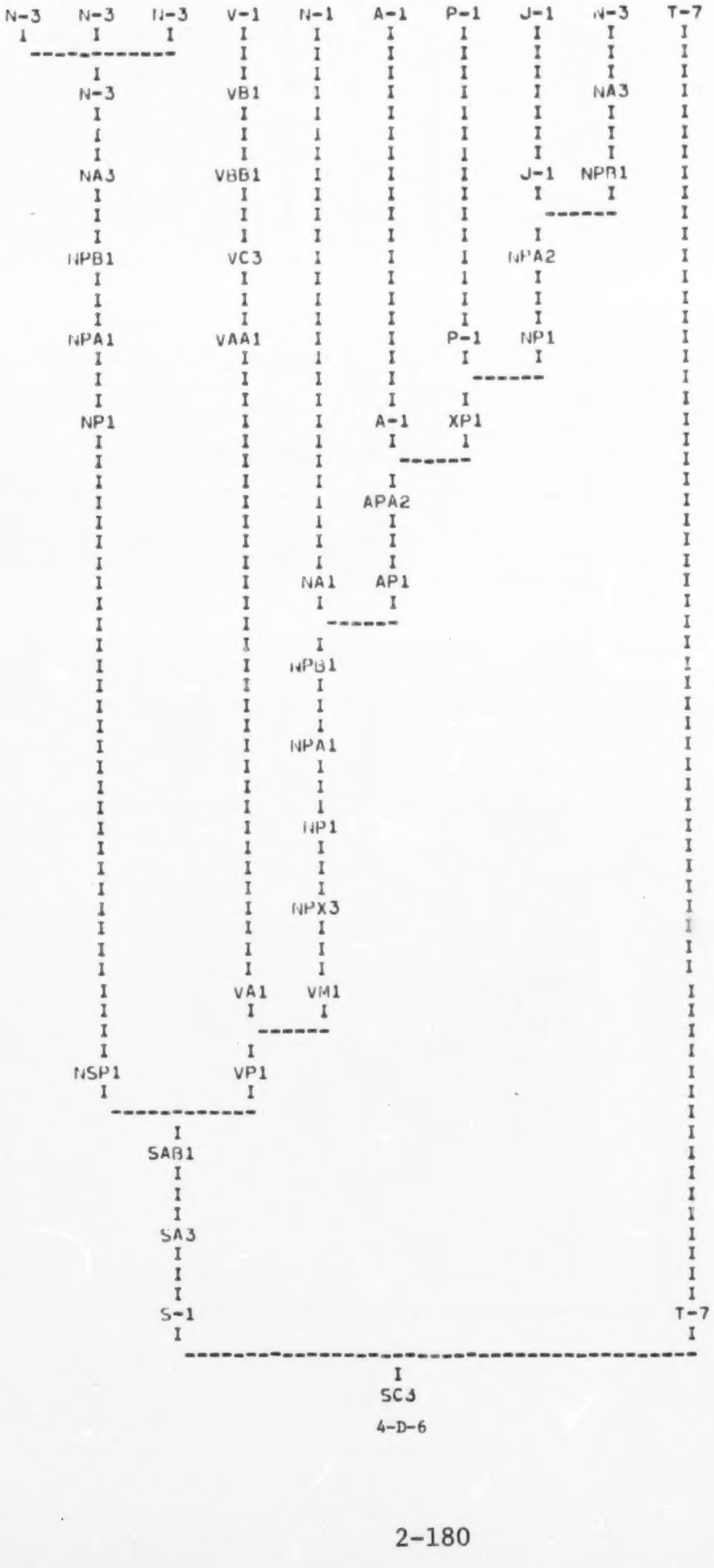
This section contains tree diagrams of Hebrew sentences analyzed by means of a computer making use of the computerized algorithm for analyzing Hebrew sentences described in Part IV of this report. The sentences were generated to demonstrate the use of the grammar in its analysis mode. A total of 26 sentences were analyzed. The sentences usually correspond to those generated by the algorithm for generating Hebrew sentences. However, in some cases they are alternate versions.

```
HEBREW SENTENCE ANALYZED--
XYYM NXMN BYALYG HYH MSWRR GDWL BAPR YSRAL.

TREE DIAGRAM OF HEBREW SENTENCE No. 1.

N-3   N-3   N-3   V-1   N-1   A-1   P-1   J-1   N-3   T-6
 I     I     I     I     I     I     I     I     I     I
  ------------     I     I     I     I     I     I     I
       I           I     I     I     I     I     I     I
      N-3         VB1    I     I     I     I    NA3    I
       I           I     I     I     I     I     I     I
       I           I     I     I     I     I     I     I
       I           I     I     I     I     I     I     I
      NA3        VBB1    I     I     I    J-1  NPB1    I
       I           I     I     I     I     I     I     I
       I           I     I     I     I      ------     I
       I           I     I     I     I     I           I
     NPB1         VC3    I     I     I   NPA2          I
       I           I     I     I     I     I           I
       I           I     I     I     I     I           I
       I           I     I     I     I     I           I
     NPA1        VAA1    I     I    P-1   NP1          I
       I           I     I     I     I     I           I
       I           I     I     I      ------           I
       I           I     I     I     I                 I
      NP1          I     I    A-1   XP1                I
       I           I     I     I     I                 I
       I           I     I      ------                 I
       I           I     I     I                       I
       I           I     I   APA2                      I
       I           I     I     I                       I
       I           I     I     I                       I
       I           I     I     I                       I
       I           I    NA1   AP1                      I
       I           I     I     I                       I
       I           I      ------                       I
       I           I     I                             I
       I           I   NPB1                            I
       I           I     I                             I
       I           I     I                             I
       I           I     I                             I
       I           I   NPA1                            I
       I           I     I                             I
       I           I     I                             I
       I           I     I                             I
       I           I    NP1                            I
       I           I     I                             I
       I           I     I                             I
       I           I     I                             I
       I           I   NPX3                            I
       I           I     I                             I
       I           I     I                             I
       I           I     I                             I
       I          VA1   VM1                            I
       I           I     I                             I
       I           I------                             I
       I           I                                   I
      NSP1        VP1                                  I
       I           I                                   I
        ------------                                   I
              I                                        I
            SAB1                                       I
              I                                        I
              I                                        I
              I                                        I
             SA3                                       I
              I                                        I
              I                                        I
              I                                        I
             S-1                                      T-6
              I                                        I
               -----------------------------------------
                                I
                               SC1
```

```
HEBREW SENTENCE ANALYZED--
HAM XYYM NXMN BYALYQ HYH MSWRH GDWL BAR& YSRAL?


  TREE DIAGRAM OF HEBREW SENTENCE 101.

Q-2   N-3   N-3   N-3   V-1   N-1   A-1   P-1   J-1   N-3   T-5
 I     I     I     I     I     I     I     I     I     I     I
 I     -------------     I     I     I     I     I     I     I
 I           I           I     I     I     I     I     I     I
 I          N-3         VB1    I     I     I     I    NA3    I
 I           I           I     I     I     I     I     I     I
 I           I           I     I     I     I     I     I     I
 I           I           I     I     I     I     I     I     I
 I          NA3        VBB1    I     I     I    J-1  NPB1    I
 I           I           I     I     I     I     I     I     I
 I           I           I     I     I     I      ------     I
 I           I           I     I     I     I     I           I
 I         NPB1         VC3    I     I     I   NPA2          I
 I           I           I     I     I     I     I           I
 I           I           I     I     I     I     I           I
 I           I           I     I     I     I     I           I
 I         NPA1        VAA1    I     I    P-1   NP1          I
 I           I           I     I     I     I     I           I
 I           I           I     I     I      ------           I
 I           I           I     I     I     I                 I
 I          NP1          I     I    A-1   XP1                I
 I           I           I     I     I     I                 I
 I           I           I     I      ------                 I
 I           I           I     I     I                       I
 I           I           I     I   APA2                      I
 I           I           I     I     I                       I
 I           I           I     I     I                       I
 I           I           I     I     I                       I
 I           I           I    NA1   AP1                      I
 I           I           I     I     I                       I
 I           I           I      ------                       I
 I           I           I     I                             I
 I           I           I   NPB1                            I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I           I   NPA1                            I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I           I    NP1                            I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I           I   NPX3                            I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I           I     I                             I
 I           I          VA1   VM1                            I
 I           I           I     I                             I
 I           I             ------                            I
 I           I           I                                   I
 I         NSP1         VP1                                  I
 I           I           I                                   I
 I            -------------                                  I
 I                  I                                        I
 I                SAB1                                       I
 I                  I                                        I
 I                  I                                        I
 I                  I                                        I
Q-2                SA3                                       I
 I                  I                                        I
   ------------------                                        I
        I                                                    I
       KI1                                                   I
        I                                                    I
        I                                                    I
        I                                                    I
       SI1                                                  T-5
        I                                                    I
         -----------------------------------------------------
                               I
                              SC2
```

HEBREW SENTENCE ANALYZED--
XYYM NXMN BYALYQ HYH MSWRR GDWL BAR& YSRAL!

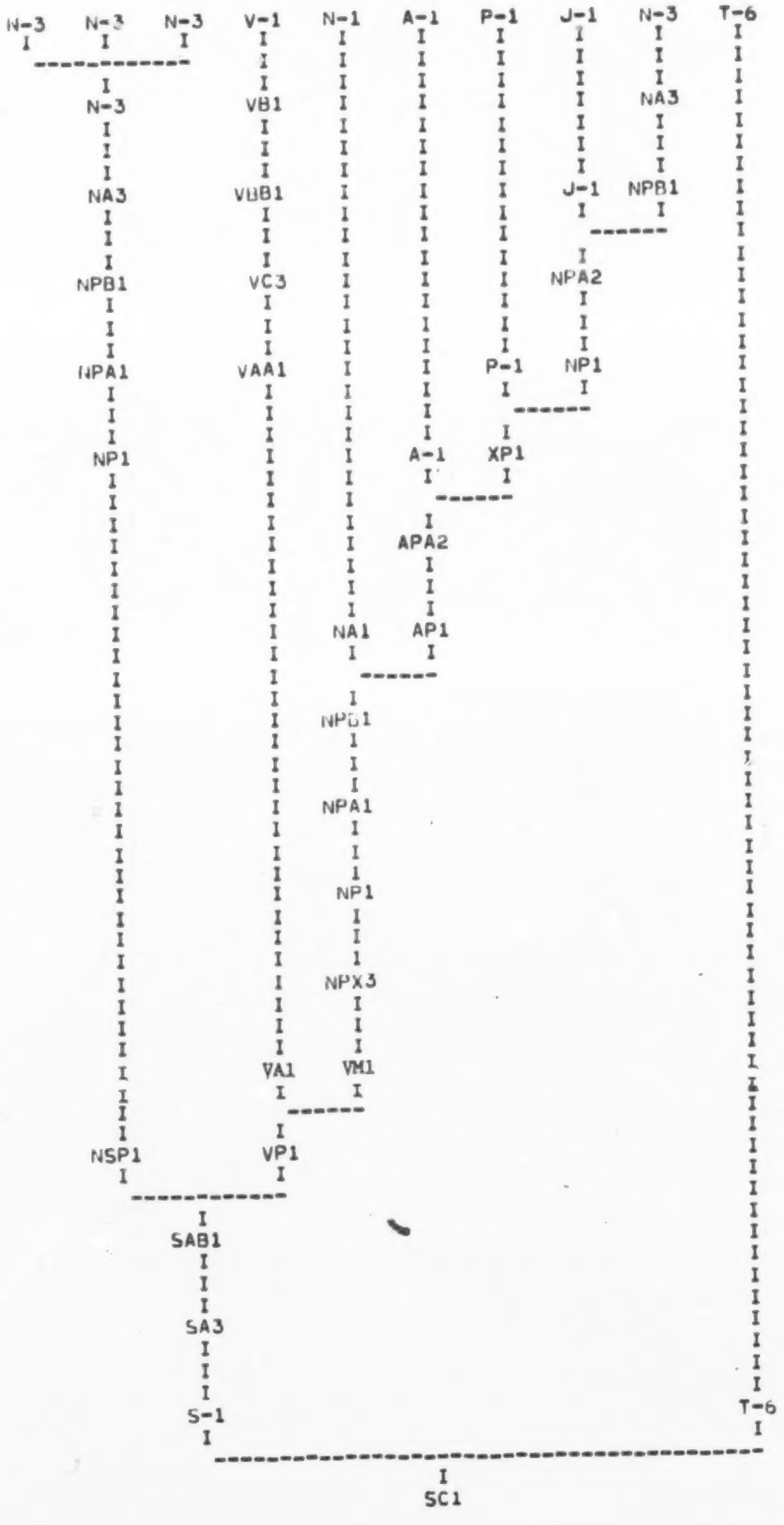
TREE DIAGRAM OF HEBREW SENTENCE 102


N-3
N-3
N-3
V-1
N-1
A-1
P-1
J-1
N-3
T-7
N-3
VB1
NA3
NA3
VBB1
J-1
NPB1
NPB1
VC3
NPA2
NPA1
VAA1
P-1
NP1
NP1
A-1
XP1
APA2
NA1
AP1
NPB1
NPA1
NP1
NPX3
VA1
VM1
NSP1
VP1
SAB1
SA3
S-1
T-7
SC3

4-D-6

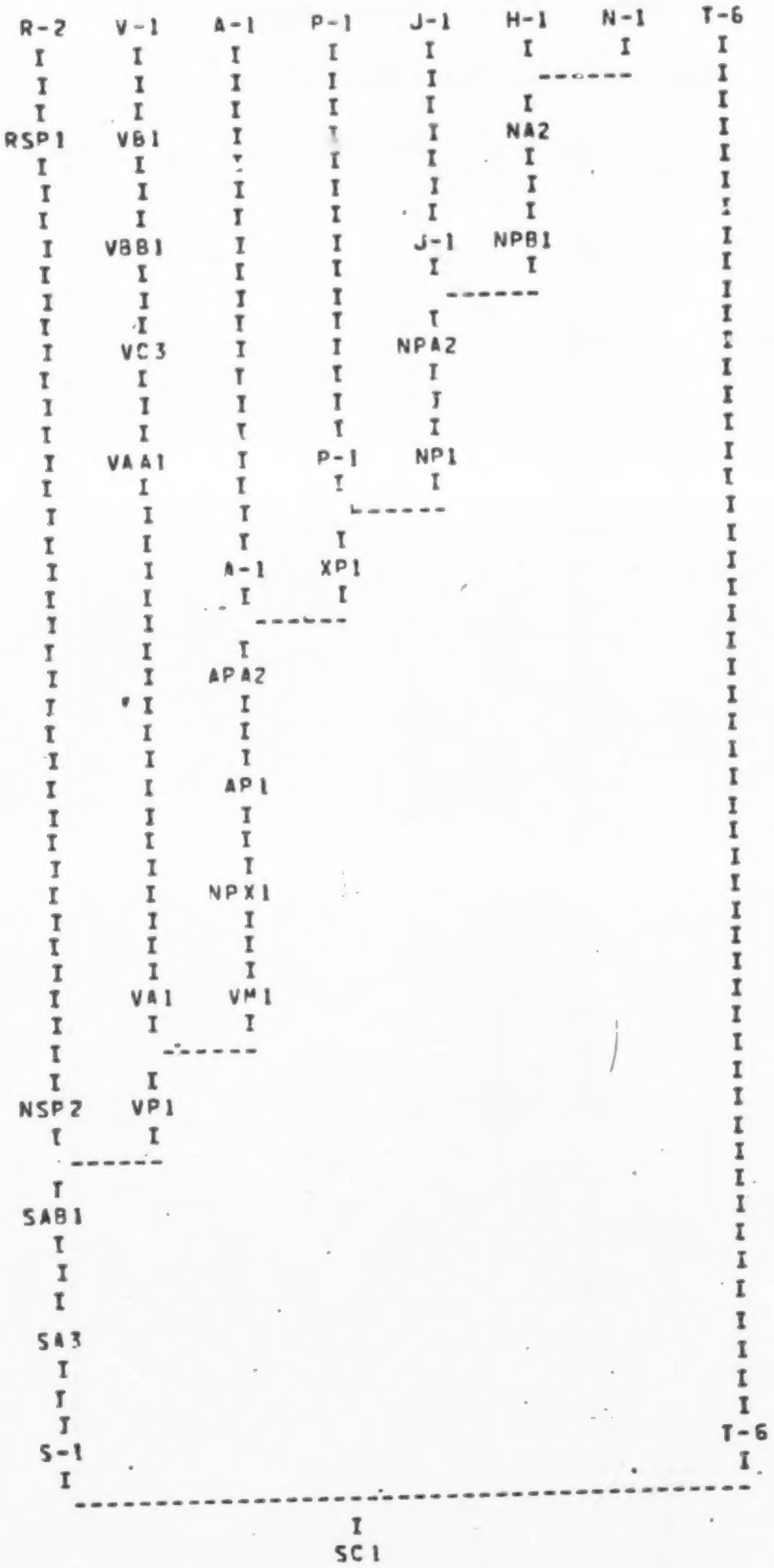
HEBREW SENTENCE ANALYZED--
XYYM NXMN BYALYQ YHYH MSWRR GDWL BARA YSRAL.

TREE DIAGRAM OF HEBREW SENTENCE 103.


N-3
N-3
N-3
V-1
N-1
A-1
P-1
J-1
N-3
T-6
N-3
VB1
NA3
NA3
VBB1
J-1
NPB1
NPB1
VC3
NPA2
NPA1
VAA1
P-1
NP1
NP1
A-1
XP1
APA2
NA1
AP1
NPB1
NPA1
NP1
NPX3
VA1
VM1
NSP1
VP1
SAB1
SA3
S-1
T-6
SC1

HEBREW SENTENCE ANALYZED--
HWA HYH GDWL MKL HMSWRRYM.

TREE DIAGRAM OF HEBREW SENTENCE NO. 2


R-2
V-1
A-1
P-1
J-1
H-1
N-1
T-6
RSP1
VB1
NA2
VBB1
J-1
NPB1
VC3
NPA2
VAA1
P-1
NP1
A-1
XP1
APA2
AP1
NPX1
VA1
VM1
NSP2
VP1
SAB1
SA3
S-1
T-6
SC1

K

HEBREW SENTENCE ANALYZED--
MY HYH GDWL MKL HMSWRRYM?

TREE DIAGRAM OF HEBREW SENTENCE NO. 201

```
R-5     V-1     A-1     P-1     J-1     H-1     N-1     T-5
 I       I       I       I       I       I       I       I
 I       I       I       I       I        -------        I
 I       I       I       I       I       I               I
 I      VB1      I       I       I      NA2              I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I      VBB1     I       I      J-1     NPB1             I
 I       I       I       I       I       I               I
 I       I       I       I        -------                I
 I       I       I       I       I                       I
 I      VC3      I       I      NPA2                     I
 I       I       I       I       I                       I
 I       I       I       I       I                       I
 I       I       I       I       I                       I
 I      VAA1     I      P-1     NP1                      I
 I       I       I       I       I                       I
 I       I       I        -------                        I
 I       I       I       I                               I
 I       I      A-1     XP1                              I
 I       I       I       I                               I
 I       I        -------                                I
 I       I       I                                       I
 I       I      APA2                                     I
 I       I       I                                       I
 I       I       I                                       I
 I       I       I                                       I
 I       I      AP1                                      I
 I       I       I                                       I
 I       I       I                                       I
 I       I       I                                       I
 I       I      NPX1                                     I
 I       I       I                                       I
 I       I       I                                       I
 I       I       I                                       I
 I      VA1     VM1                                      I
 I       I       I                                       I
 I        -------                                        I
 I       I                                               I
R-5     VP1                                              I
 I       I                                               I
  -------                                                I
 I                                                       I
KI2                                                      I
 I                                                       I
 I                                                       I
 I                                                       I
SI1                                                     T-5
 I                                                       I
  -------------------------------------------------------
                            I
                           SC2
```

194

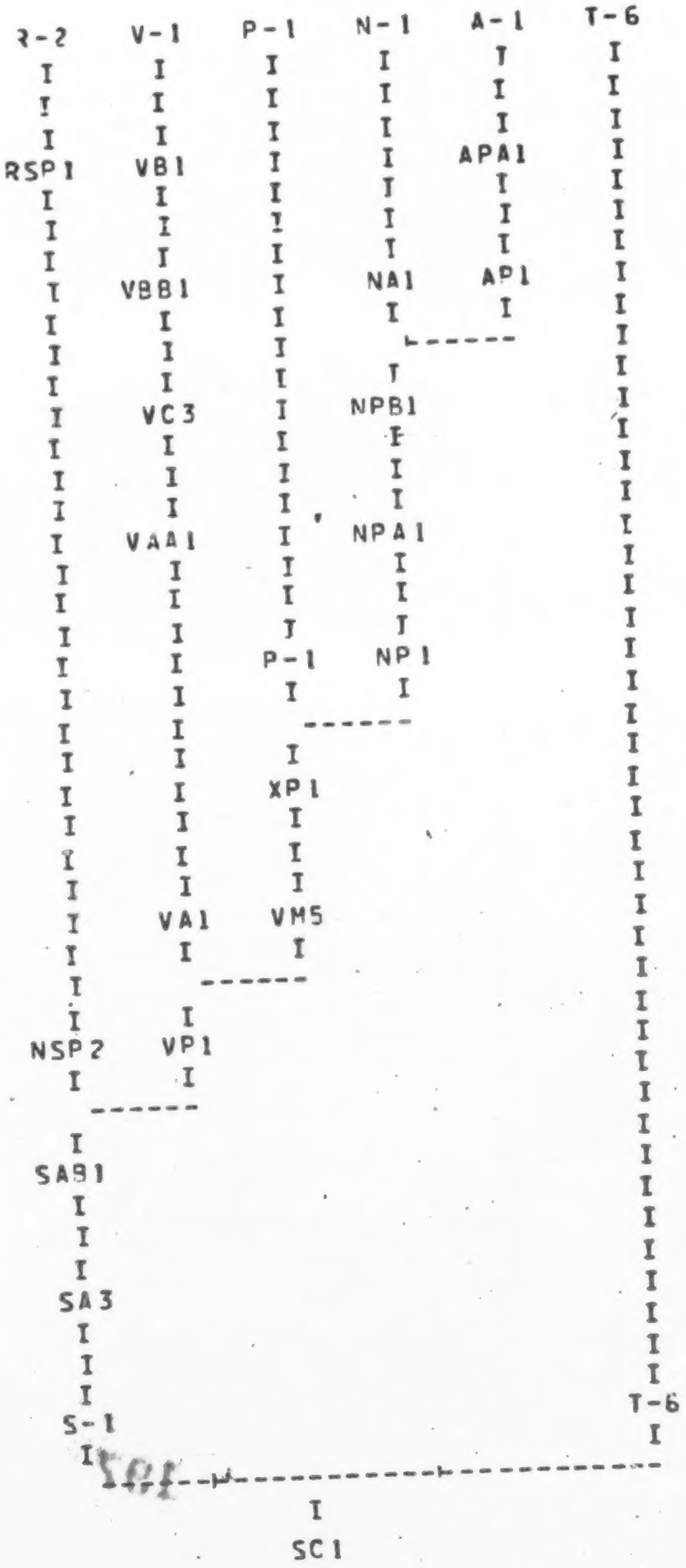
HEBREW SENTENCE ANALYZED--
HWA YSB BKPR QTN.

TREE DIAGRAM OF HEBREW SENTENCE NO. 4

```
R-2   V-1   P-1   N-1   A-1   T-6
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
RSP1  VB1    I     I    APA1   I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I    VBB1   I    NA1   AP1    I
 I     I     I     I     I     I
 I     I     I      ------     I
 I     I     I     I           I
 I    VC3    I    NPB1         I
 I     I     I     I           I
 I     I     I     I           I
 I     I     I     I           I
 I    VAA1   I    NPA1         I
 I     I     I     I           I
 I     I     I     I           I
 I     I     I     I           I
 I     I    P-1   NP1          I
 I     I     I     I           I
 I     I      ------           I
 I     I     I                 I
 I     I    XP1                I
 I     I     I                 I
 I     I     I                 I
 I     I     I                 I
 I    VA1   VM5                I
 I     I     I                 I
 I      ------                 I
 I     I                       I
NSP2  VP1                      I
 I     I                       I
  ------                       I
 I                             I
SAB1                           I
 I                             I
 I                             I
 I                             I
SA3                            I
 I                             I
 I                             I
 I                             I
S-1                           T-6
 I                             I
  ------------------------------
             I
            SC1
```

HEBREW SENTENCE ANALYZED--
HWA YYSP BKPR Q@N.

TREE DIAGRAM OF HEBREW SENTENCE NO. 401

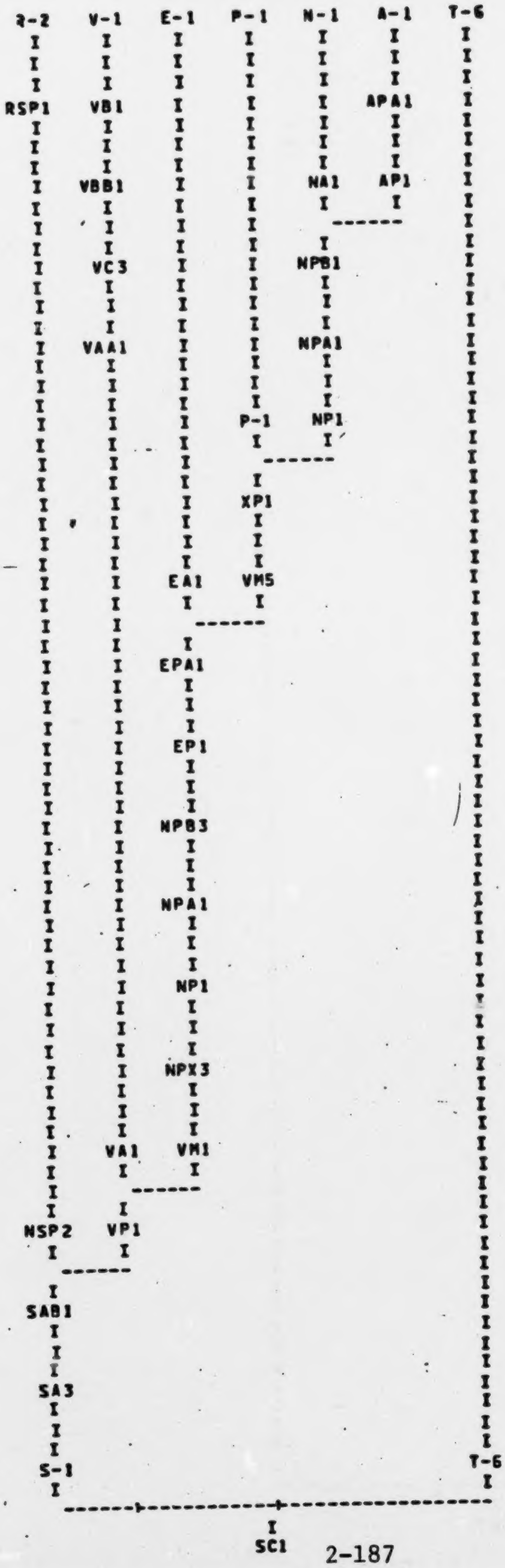

R-2
V-1
P-1
N-1
A-1
T-6
RSP1
VB1
APA1
VBB1
NA1
AP1
VC3
NPB1
VAA1
NPA1
P-1
NP1
XP1
VA1
VM5
NSP2
VP1
SAB1
SA3
S-1
T-6
SC1

```
HEBREW SENTENCE ANALYZED--
HWA YWSB BKPR Q@N.

  TREE DIAGRAM OF HEBREW SENTENCE NO. 402

R-2   E-1   P-1   N-1   A-1   T-6
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
RSP1   I     I     I    APA1   I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I    NA1   AP1    I
 I     I     I     I     I     I
 I     I     I     ------      I
 I     I     I     I           I
 I     I     I    NPR1         I
 I     I     I     I           I
 I     I     I     I           I
 I     I     I     I           I
 I     I     I    NPA1         I
 I     I     I     I           I
 I     I     I     I           I
 I     I     I     I           I
 I     I    P-1   NP1          I
 I     I     I     I           I
 I     I     ------            I
 I     I     I                 I
 I     I    XP1                I
 I     I     I                 I
 I     I     I                 I
 I     I     I                 I
 I    EA1    I                 I
 I     I     I                 I
 I     I     I                 I
 I     I     I                 I
 I    VBB1   I                 I
 I     I     I                 I
 I     I     I                 I
 I     I     I                 I
 I    VC3    I                 I
 I     I     I                 I
 I     I     I                 I
 I     I     I                 I
 I    VAA1   I                 I
 I     I     I                 I
 I     I     I                 I
 I     I     I                 I
 I    VA1   VM5                I
 I     I     I                 I
 I     ------                  I
 I     I                       I
NSP2  VP1                      I
 I     I                       I
 ------                        I
 I                             I
SAB1                           I
 I                             I
 I                             I
SA3                            I
 I                             I
 I                             I
 I                             I
S-1                           T-6
 I                             I
 -------------------------------
              I
             SC1
```

197

HEBREW SENTENCE ANALYZED--
HWA HYH YWSB OL KCA Q@N.

TREE DIAGRAM OF HEBREW SENTENCE NO. 403


R-2
V-1
E-1
P-1
N-1
A-1
T-6
RSP1
VB1
APA1
VBB1
NA1
AP1
VC3
NPB1
VAA1
NPA1
P-1
NP1
XP1
EA1
VM5
EPA1
EP1
NPB3
NPA1
NP1
NPX3
VA1
VM1
NSP2
VP1
SAB1
SA3
S-1
T-6
SC1

```
HEBREW SENTENCE ANALYZED--
HWA YHYH YWSB BKPR Q@N.

TREE DIAGRAM OF HEBREW SENTENCE NO. 404

R-2    V-1    E-1    P-1    N-1    A-1    T-6
 I      I      I      I      I      I      I
 I      I      I      I      I      I      I
 I      I      I      I      I      I      I
RSP1   VB1     I      I      I     APA1    I
 I      I      I      I      I      I      I
 I      I      I      I      I      I      I
 I      I      I      I      I      I      I
 I     VBB1    I      I     NA1    AP1     I
 I      I      I      I      I      I      I
 I      I      I      I       ------       I
 I      I      I      I      I             I
 I     VC3     I      I     NPB1           I
 I      I      I      I      I             I
 I      I      I      I      I             I
 I      I      I      I      I             I
 I     VAA1    I      I     NPA1           I
 I      I      I      I      I             I
 I      I      I      I      I             I
 I      I      I      I      I             I
 I      I      I     P-1    NP1            I
 I      I      I      I      I             I
 I      I      I       ------              I
 I      I      I      I                    I
 I      I      I     XP1                   I
 I      I      I      I                    I
 I      I      I      I                    I
 I      I      I      I                    I
 I      I     EA1    VM5                   I
 I      I      I      I                    I
 I      I       ------                     I
 I      I      I                           I
 I      I     EPA1                         I
 I      I      I                           I
 I      I      I                           I
 I      I      I                           I
 I      I     EP1                          I
 I      I      I                           I
 I      I      I                           I
 I      I      I                           I
 I      I     NPB3                         I
 I      I      I                           I
 I      I      I                           I
 I      I      I                           I
 I      I     NPA1                         I
 I      I      I                           I
 I      I      I                           I
 I      I      I                           I
 I      I     NP1                          I
 I      I      I                           I
 I      I      I                           I
 I      I      I                           I
 I      I     NPX3                         I
 I      I      I                           I
 I      I      I                           I
 I      I      I                           I
 I     VA1    VM1                          I
 I      I      I                           I
 I       ------                            I
 I      I                                  I
NSP2   VP4                                 I
 I      I                                  I
  ------                                   I
 I                                         I
SAB1                                       I
 I                                         I
 I                                         I
 I                                         I
SA3                                        I
 I                                         I
 I                                         I
 I                                         I
S-1                                       T-6
 I                                         I
 -------------------------------------------
                      I
                     SC1
```

HEBREW SENTENCE ANALYZED--
HWA AHB LLMWD TWRH.

TREE DIAGRAM OF HEBREW SENTENCE No. 5.

```
R-2   V-1   P-1   Y-1   N-1   T-6
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
RSP1  VB1    I     I    NA1    I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I    VBB1   I     I    NPB1   I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I    VC3    I     I    NPA1   I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I    VAA1   I     I    NP1    I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I    NOP1   I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I    VMA3   I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I     I     I     I
 I     I     I    Y-1   VM3    I
 I     I     I     I     I     I
 I     I     I     -------     I
 I     I     I     I           I
 I     I    P-1   NV1          I
 I     I     I     I           I
 I     I     -------           I
 I     I     I                 I
 I    VA1   VM6                I
 I     I     I                 I
 I     -------                 I
 I     I                       I
NSP2  VP1                      I
 I     I                       I
 -------                       I
 I                             I
SAB1                           I
 I                             I
 I                             I
 I                             I
SA3                            I
 I                             I
 I                             I
 I                             I
S-1                           T-6
 I                             I
 -------------------------------
             I
            SC1
```

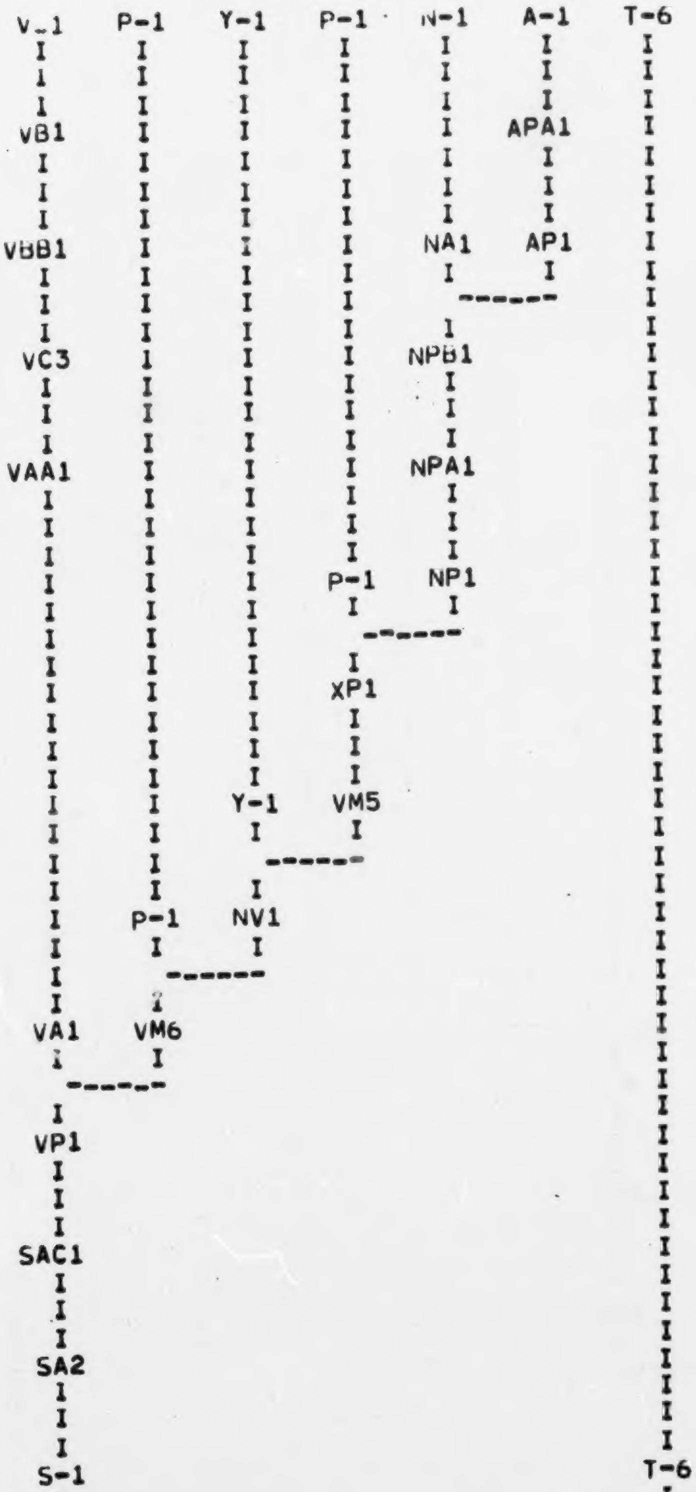
HEBREW SENTENCE ANALYZED--
ABL HWA AHB GM AT HSDWT.

TREE DIAGRAM OF HEBREW SENTENCE No. 6.

```
C-8     R-2     V-1     D-1     O-1     H-1     N-1     T-6
 I       I       I       I       I       I       I       I
 I       I       I       I       I       ---------       I
 I       I       I       I       I       I               I
 I      RSP1    VB1      I       I      NA2              I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I       I      VBB1     I       I      NPB1             I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I       I      VC3      I       I      NPA1             I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I       I       I       I       I       I               I
 I       I      VAA1     I      O-1     NP1              I
 I       I       I       I       I       I               I
 I       I       I       I        ---------              I
 I       I       I       I       I                       I
 I       I       I       I      NO1                      I
 I       I       I       I       I                       I
 I       I       I       I       I                       I
 I       I       I       I       I                       I
 I       I       I      DP1     NOP2                     I
 I       I       I       I       I                       I
 I       I       I        ---------                      I
 I       I       I       I                               I
 I       I       I      VMA3                             I
 I       I       I       I                               I
 I       I       I       I                               I
 I       I       I       I                               I
 I       I      VA1     VM3                              I
 I       I       I       I                               I
 I       I        ---------                              I
 I       I       I                                       I
 I      NSP2    VP1                                      I
 I       I       I                                       I
 I        ---------                                      I
 I       I                                               I
 I      SAB1                                             I
 I       I                                               I
 I       I                                               I
 I       I                                               I
 I      SA3                                              I
 I       I                                               I
 I       I                                               I
 I       I                                               I
C-8     S-1                                             T-6
 I       I                                               I
 ---------------------------------------------------------
                         I
                        SC1
```

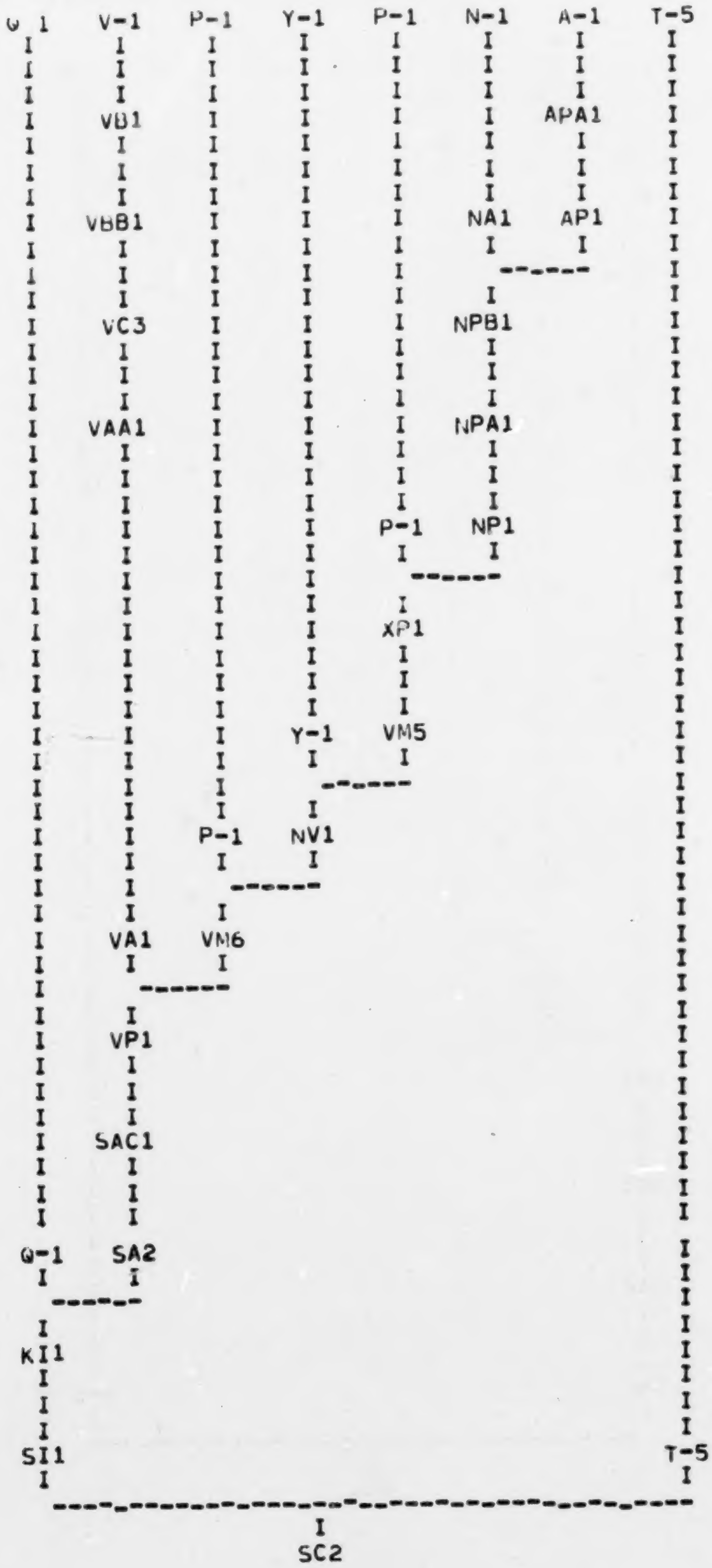
HEBREW SENTENCE ANALYZED--
HLK LLMWD BYSYBH GDWLH.

TREE DIAGRAM OF HEBREW SENTENCE No. 7.


V-1
P-1
Y-1
P-1
N-1
A-1
T-6
VB1
APA1
VBB1
NA1
AP1
VC3
NPB1
VAA1
NPA1
P-1
NP1
XP1
Y-1
VM5
P-1
NV1
VA1
VM6
VP1
SAC1
SA2
S-1
T-6
SC1

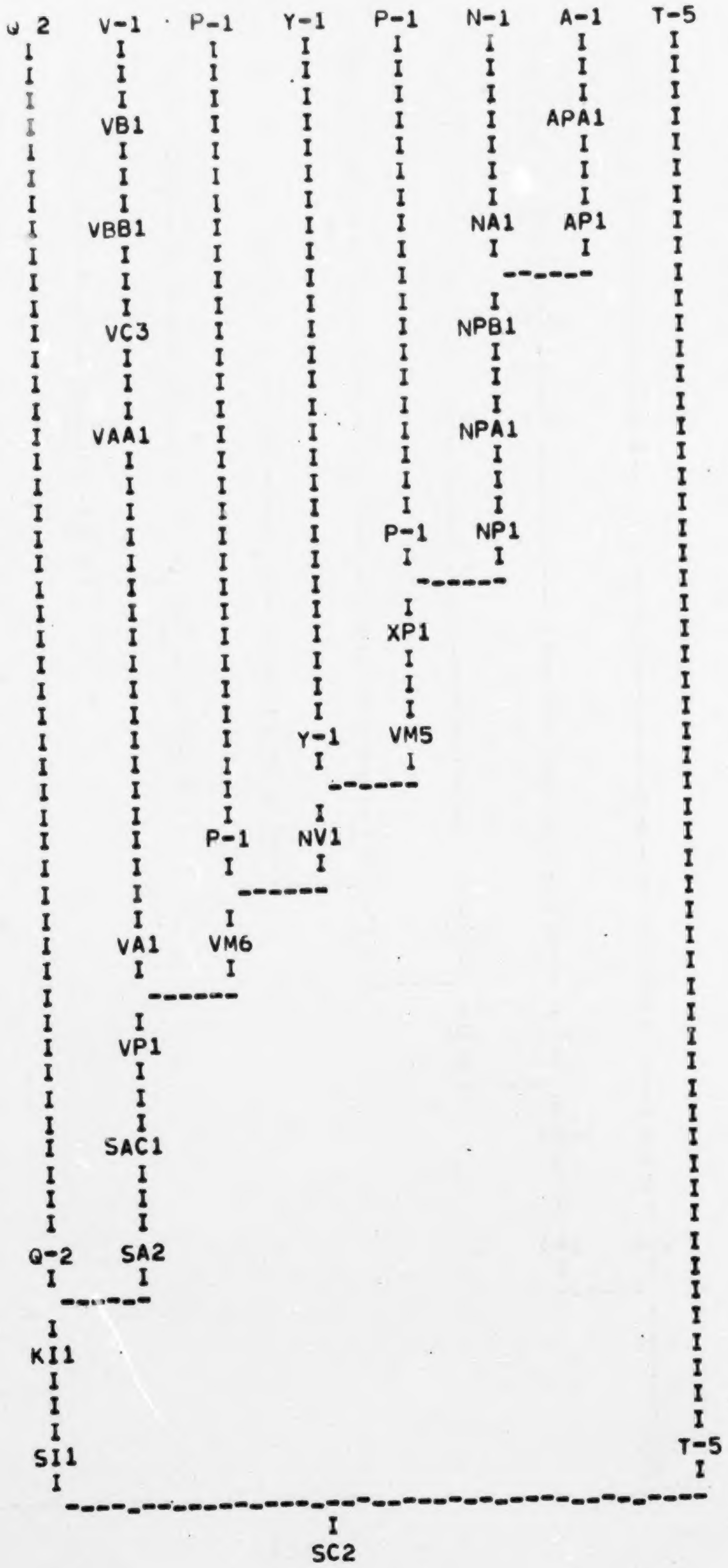
HEBREW SENTENCE ANALYZED--
HHLK LLMWD BYSYBH GDWLH?

TREE DIAGRAM OF HEBREW SENTENCE No. 701.


Q 1
V-1
P-1
Y-1
P-1
N-1
A-1
T-5
VB1
APA1
VBB1
NA1
AP1
VC3
NPB1
VAA1
NPA1
P-1
NP1
XP1
Y-1
VM5
P-1
NV1
VA1
VM6
VP1
SAC1
Q-1
SA2
KI1
SI1
T-5
SC2

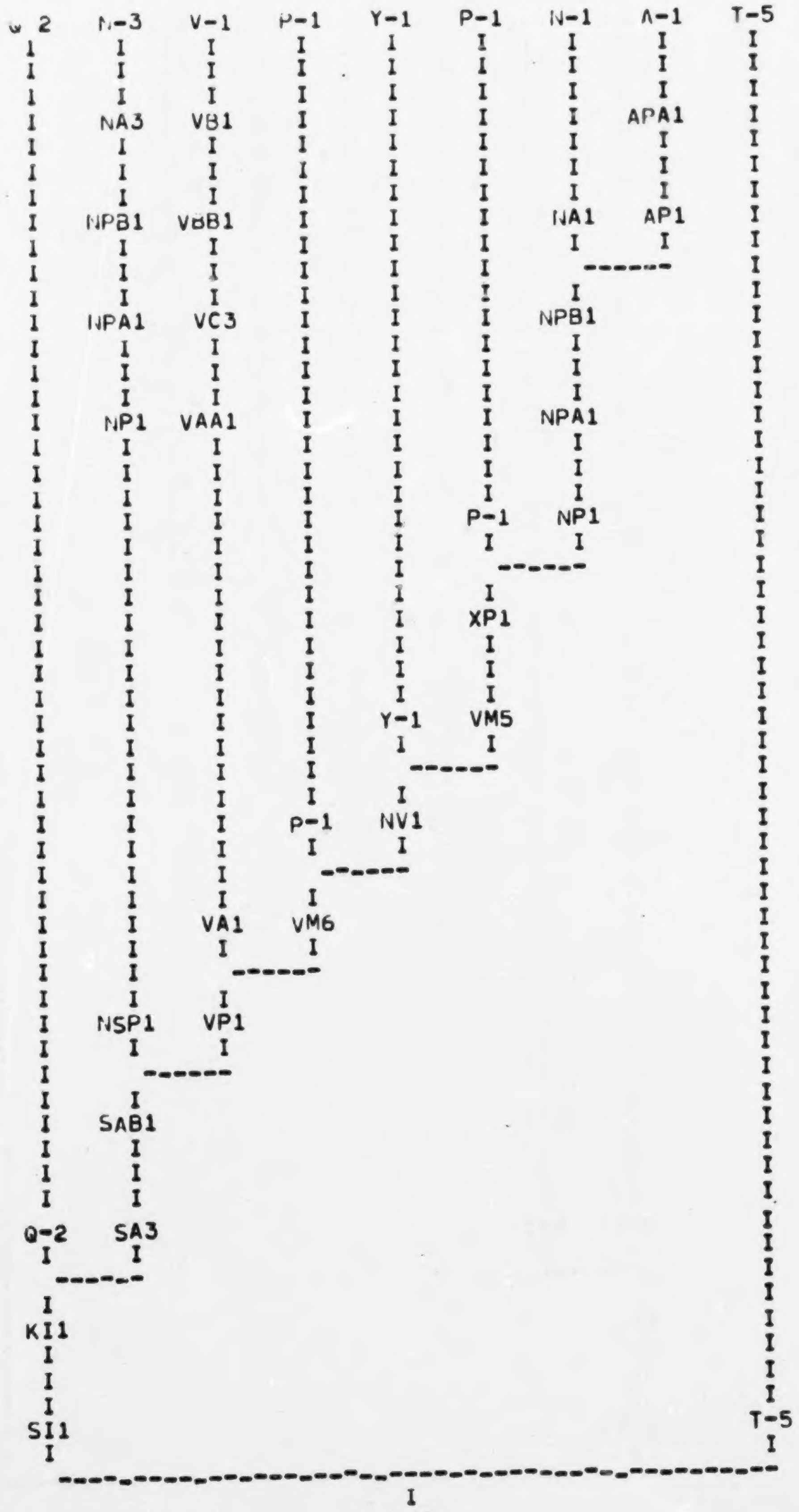
HEBREW SENTENCE ANALYZED--
HAM HLK LLMWD RYSYBH GDWLH?

TREE DIAGRAM OF HEBREW SENTENCE No. 702.


Q 2
V-1
P-1
Y-1
P-1
N-1
A-1
T-5
VB1
APA1
VBB1
NA1
AP1
VC3
NPB1
VAA1
NPA1
P-1
NP1
XP1
Y-1
VM5
P-1
NV1
VA1
VM6
VP1
SAC1
Q-2
SA2
KI1
SI1
T-5
SC2

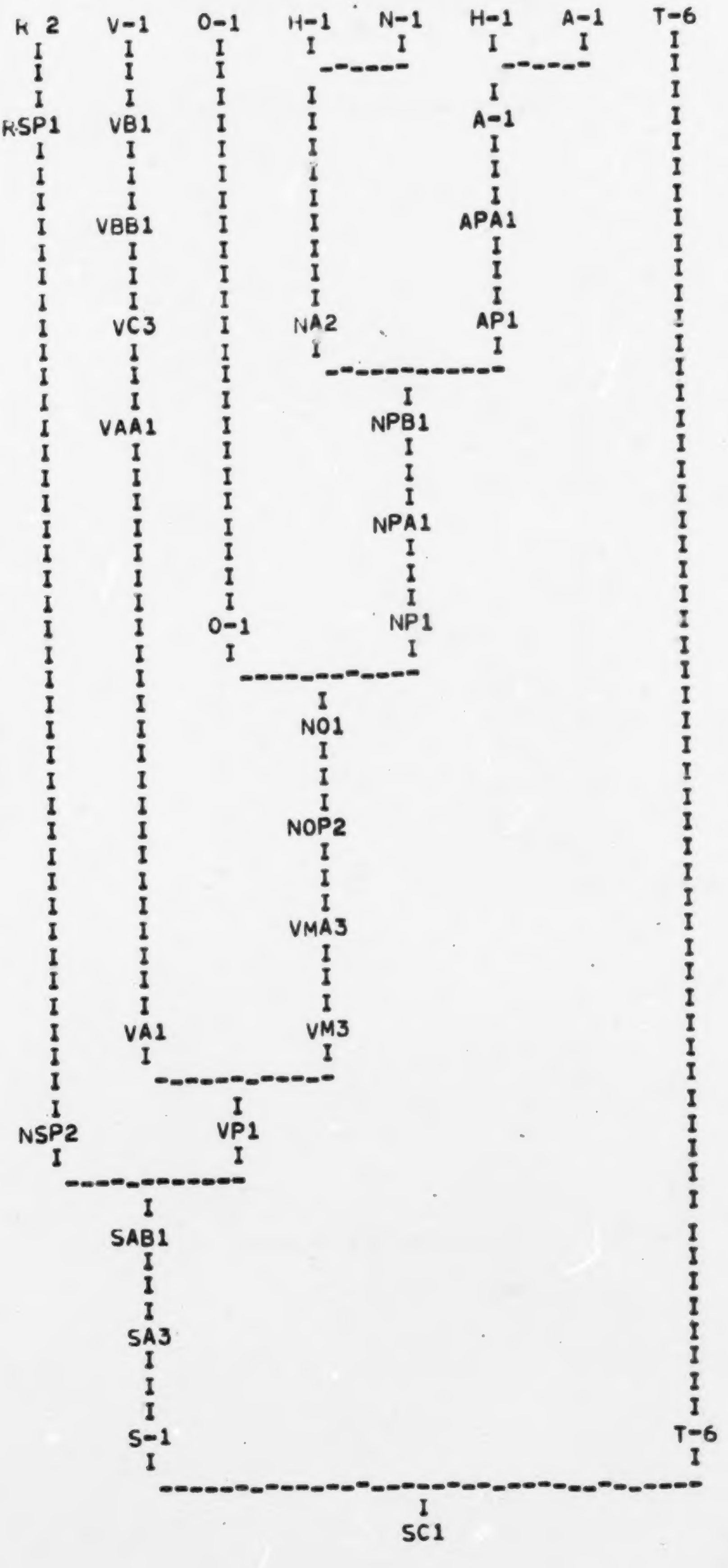
HEBREW SENTENCE ANALYZED--
HAM BYALYG HLK LLMWD BYSYBH GDWLH.

TREE DIAGRAM OF HEBREW SENTENCE No. 703.


Q 2
N-3
V-1
P-1
Y-1
P-1
N-1
A-1
T-5
NA3
VB1
APA1
NPB1
VBB1
NA1
AP1
NPA1
VC3
NPB1
NP1
VAA1
NPA1
P-1
NP1
XP1
Y-1
VM5
P-1
NV1
VA1
VM6
NSP1
VP1
SAB1
Q-2
SA3
KI1
SI1
T-5
SC2

HEBREW SENTENCE ANALYZED--
HWA KTB AT HSYRYM HRASWNYM.

TREE DIAGRAM OF HEBREW SENTENCE No. 8.

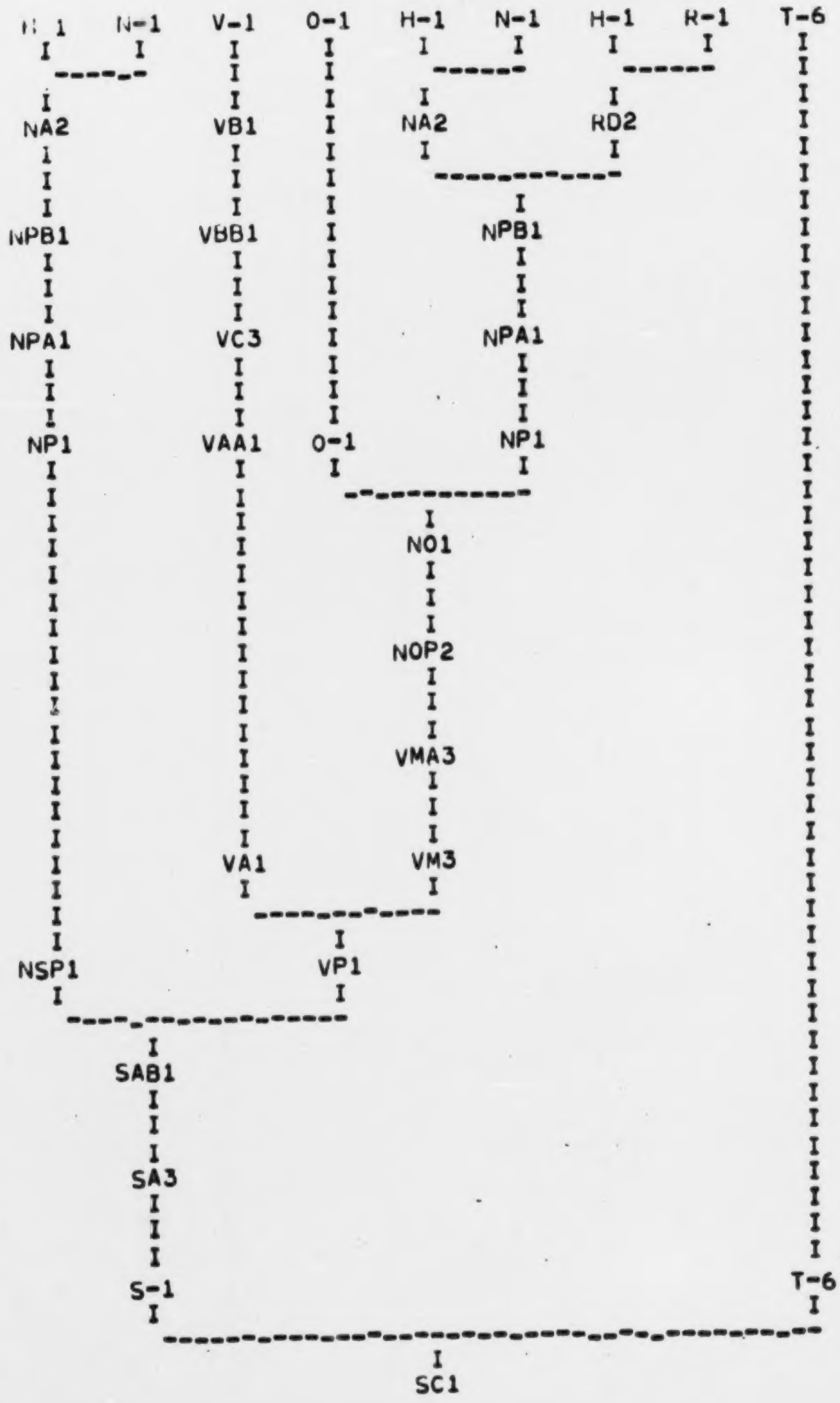

R 2
V-1
O-1
H-1
N-1
H-1
A-1
T-6
RSP1
VB1
A-1
VBB1
APA1
VC3
NA2
AP1
VAA1
NPB1
NPA1
O-1
NP1
NO1
NOP2
VMA3
VA1
VM3
NSP2
VP1
SAB1
SA3
S-1
T-6
SC1

```
HEBREW SENTENCE ANALYZED--
HWA KTB OL HSMS.

TREE DIAGRAM OF HEBREW SENTENCE No. 9.
```

```
  R-2   V-1   P-1   H-1   N-1   T-6
   I     I     I     I     I     I
   I     I     I     -------     I
   I     I     I     I           I
 RSP1   VB1    I    NA2          I
   I     I     I     I           I
   I     I     I     I           I
   I     I     I     I           I
   I   VBB1    I   NPB1          I
   I     I     I     I           I
   I     I     I     I           I
   I     I     I     I           I
   I    VC3    I   NPA1          I
   I     I     I     I           I
   I     I     I     I           I
   I     I     I     I           I
   I   VAA1   P-1    NP1          I
   I     I     I     I           I
   I     I     -------           I
   I     I     I                 I
   I     I    XP1                I
   I     I     I                 I
   I     I     I                 I
   I     I     I                 I
   I    VA1   VM5                I
   I     I     I                 I
   I     -------                 I
   I     I                       I
 NSP2   VP1                      I
   I     I                       I
   -------                       I
   I                             I
 SAB1                            I
   I                             I
   I                             I
   I                             I
  SA3                            I
   I                             I
   I                             I
   I                             I
  S-1                           T-6
   I                             I
   -------------------------------
               I
              SC1
```

HEBREW SENTENCE ANALYZED--
HTLMYDYM LMDW AT HSYRYM HALH.

TREE DIAGRAM OF HEBREW SENTENCE No. 12.



H-1
N-1
V-1
O-1
H-1
N-1
H-1
R-1
T-6
NA2
VB1
NA2
RD2
NPB1
VBB1
NPB1
NPA1
VC3
NPA1
NP1
VAA1
O-1
NP1
NO1
NOP2
VMA3
VA1
VM3
NSP1
VP1
SAB1
SA3
S-1
T-6
SC1

HEBREW SENTENCE ANALYZED--
YDOw AWTM OL PH.

TREE DIAGRAM OF HEBREW SENTENCE No. 121.

```
 V.1   0-1   R-3   P-1   N-1   T-6
  I     I     I     I     I     I
  I      ------     I     I     I
  I     I           I     I     I
 VB1    I           I    NA1    I
  I     I           I     I     I
  I     I           I     I     I
  I     I           I     I     I
VBB1    I           I   NPB1    I
  I     I           I     I     I
  I     I           I     I     I
  I     I           I     I     I
 VC3    I           I   NPA1    I
  I     I           I     I     I
  I     I           I     I     I
  I     I           I     I     I
VAA1    I          P-1   NP1    I
  I     I           I     I     I
  I     I            ------     I
  I     I           I           I
  I     I          XP1          I
  I     I           I           I
  I     I           I           I
  I     I           I           I
  I    R01        NIP1          I
  I     I           I           I
  I      ------_-----           I
  I           I                 I
  I         VMB2                I
  I           I                 I
  I           I                 I
  I           I                 I
 VA1         VM4                I
  I           I                 I
   ----_-------                 I
        I                       I
       VP1                      I
        I                       I
        I                       I
        I                       I
      SAC1                      I
        I                       I
        I                       I
        I                       I
       SA2                      I
        I                       I
        I                       I
        I                       I
       S-1                     T-6
        I                       I
         ------_----_-_----------
                     I
                    SC1
```

HEBREW SENTENCE ANALYZED--
BYALYQ NCO LAR& YSRAL.

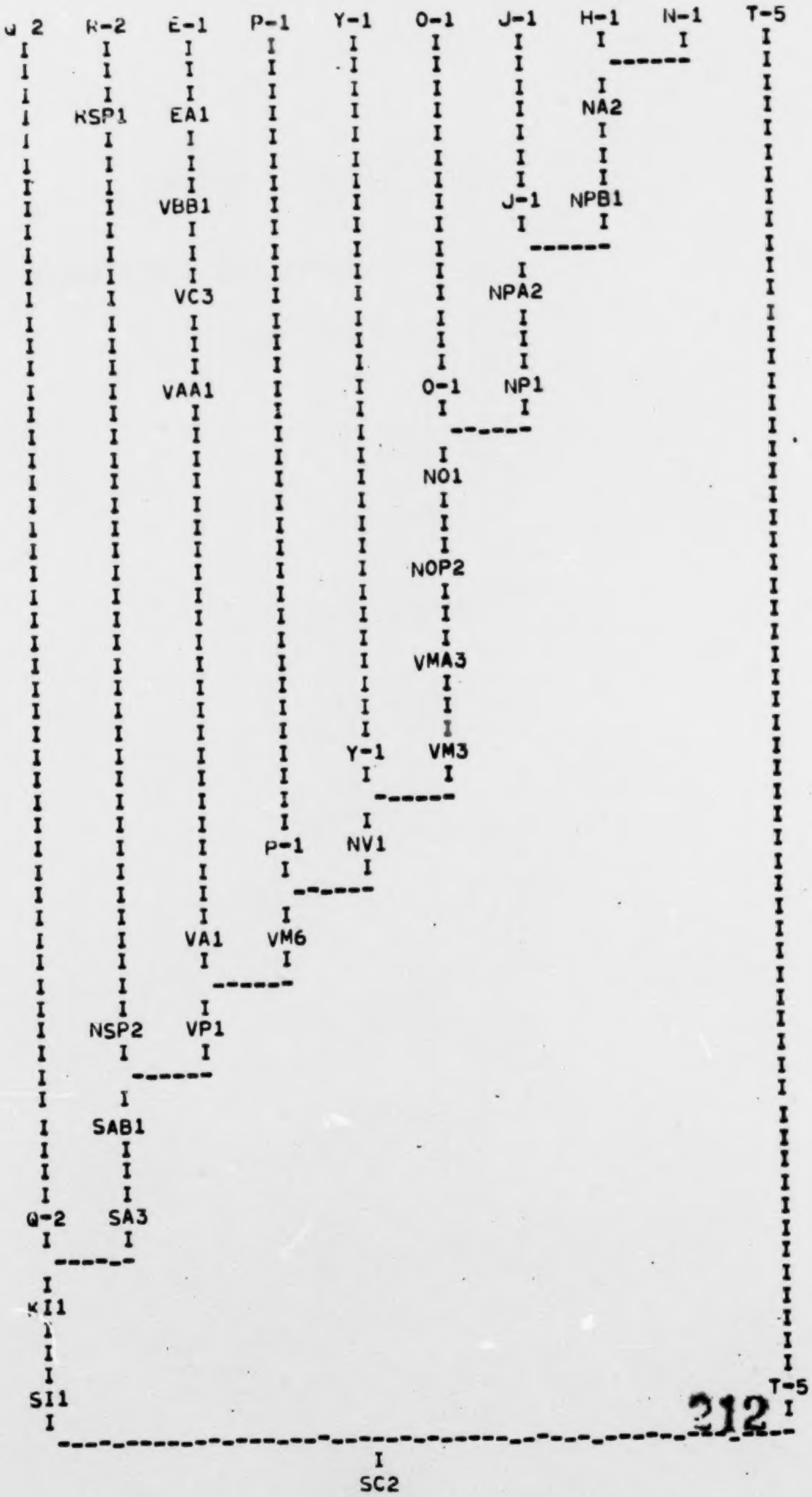
TREE DIAGRAM OF HEBREW SENTENCE No. 13.

```
 N 1   V-1   P-1    J-1   N-1   T-6
  I     I     I      I     I     I
  I     I     I      I     I     I
  I     I     I      I     I     I
 NA1   VB1    I      I    NA1    I
  I     I     I      I     I     I
  I     I     I      I     I     I
  I     I     I      I     I     I
NPB1  VBB1    I     J-1  NPB1    I
  I     I     I      I     I     I
  I     I     I      -------     I
  I     I     I      I           I
NPA1   VC3    I    NPA2          I
  I     I     I      I           I
  I     I     I      I           I
  I     I     I      I           I
 NP1  VAA1   P-1    NP1          I
  I     I     I      I           I
  I     I      -------           I
  I     I     I                  I
  I     I    XP1                 I
  I     I     I                  I
  I     I     I                  I
  I     I     I                  I
  I    VA1   VM5                 I
  I     I     I                  I
  I     -------                  I
  I     I                        I
NSP1   VP1                       I
  I     I                        I
  -------                        I
  I                              I
SAB1                             I
  I                              I
  I                              I
  I                              I
 SA3                             I
  I                              I
  I                              I
  I                              I
 S-1                            T-6
  I                              I
  --------------------------------
                I
               SC1
```

```
        HEBREW SENTENCE ANALYZED--
        KL HYHDYM SKW OL MWTW.

          TREE DIAGRAM OF HEBREW SENTENCE No.23.

 J-1   H-1   N-1   V-1   P-1   J-1   R-3   T-6
  I     I     I     I     I     I     I     I
  I      ------     I     I      ------     I
  I     I           I     I     I           I
  I    NA2         VB1    I    NS1          I
  I     I           I     I     I           I
  I     I           I     I     I           I
  I     I           I     I     I           I
 J-1  NPB1       VBB1     I   NPB2          I
  I     I           I     I     I           I
   ------           I     I     I           I
  I                 I     I     I           I
NPA2               VC3    I   NPA1          I
  I                 I     I     I           I
  I                 I     I     I           I
  I                 I     I     I           I
 NP1              VAA1   P-1   NP1          I
  I                 I     I     I           I
  I                 I      ------           I
  I                 I     I                 I
  I                 I    XP1                I
  I                 I     I                 I
  I                 I     I                 I
  I                 I     I                 I
  I                VA1   VM5                I
  I                 I     I                 I
  I                  ------                 I
  I                 I                       I
NSP1               VP1                      I
  I                 I                       I
   ------------------                       I
        I                                   I
      SAB1                                  I
        I                                   I
        I                                   I
        I                                   I
       SA3                                  I
        I                                   I
        I                                   I
        I                                   I
       S-1                                 T-6
        I                                   I
         ------------------------------------
                          I
                         SC1
```

HEBREW SENTENCE ANALYZED--
HAM ATH RWH LRAH AT BYT HKNCT?

TREE DIAGRAM OF HEBREW SENTENCE No. 26.


Q 2
R-2
E-1
P-1
Y-1
O-1
J-1
H-1
N-1
T-5
NA2
RSP1
EA1
VBB1
J-1
NPB1
VC3
NPA2
VAA1
O-1
NP1
NO1
NOP2
VMA3
Y-1
VM3
P-1
NV1
VA1
VM6
NSP2
VP1
SAB1
Q-2
SA3
KI1
SI1
T-5
SC2

```
HEBREW SENTENCE ANALYZED--
AYN LYwCP XDR.

 TREE DIAGRAM OF HEBREW SENTENCE No. 111.
```

```
L 1   P-1   N-2   N-1   T-6
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I     I    NA3   NA1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I     I   NPB1  NPB1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I     I   NPA1  NPA1    I
 I     I     I     I     I
 I     I     I     I     I
 I     I     I     I     I
 I    P-1   NP1   NP1    I
 I     I     I     I     I
 I      ------     I     I
 I     I           I     I
L-1   XP1         NSP1   I
 I     I           I     I
  -------------------    I
       I                 I
     SAA4                I
       I                 I
       I                 I
       I                 I
      SA1                I
       I                 I
       I                 I
       I                 I
      S-1               T-6
       I                 I
        -------------------
             I
            SC1
```

213

HEBREW SENTENCE ANALYZED--
YS LYWCP XDR.

TREE DIAGRAM OF HEBREW SENTENCE No. 112.

```
U-3   P-1   N-2   N-1    T-6
 I     I     I     I      I
 I     I     I     I      I
 I     I     I     I      I
 I     I    NA3   NA1     I
 I     I     I     I      I
 I     I     I     I      I
 I     I     I     I      I
 I     I   NPB1  NPB1     I
 I     I     I     I      I
 I     I     I     I      I
 I     I     I     I      I
 I     I   NPA1  NPA1     I
 I     I     I     I      I
 I     I     I     I      I
 I     I     I     I      I
 I    P-1   NP1   NP1     I
 I     I     I     I      I
 I       ------    I      I
 I     I           I      I
U-3   XP1        NSP1     I
 I     I           I      I
  -------------------     I
       I                  I
      SAA4                I
       I                  I
       I                  I
       I                  I
      SA1                 I
       I                  I
       I                  I
       I                  I
      S-1                T-6
       I                  I
         ------------------
              I
             SC1
```

2.4 CLASSIFICATION OF HEBREW WORD

This section describes the work performed to classify the 1040 most common Hebrew words as listed by Rosen.[41] The words were classified according to the following categories which are required by the grammars of Hebrew orthography and syntax:

(1) Root
(2) Syntactic Function
(3) Function Class
(4) Syntactic Gender
(5) Preposition Class
(6) Voice
(7) Verb Class
(8) Stem
(9) Stem Class
(10) Number-Gender Transform
(11) Feminine Singular Class
(12) Historic Period
(13) English Meaning

The following material explains these categories in detail. Appendix A contains a listing of the classification of the words. The classification was prepared by Dropsie University. It serves as a dictionary for the Hebrew grammar.

2.4.1 Root

Most Hebrew words are constructed from triliteral roots consisting of consonantal characters that usually remain throughout the various stems and their inflections. A few Hebrew words appear to have biliteral roots and a few have quadriliteral roots. Certain one-syllable words which only occur prefixed or suffixed to other words may be considered to have uniliteral roots. Hebrew dictionaries list the words in alphabetic order according to their classical roots. In most cases the present root classification is in agreement with the commonly accepted roots. In a few cases where the inflections of a word are quite irregular, artificial roots have been supplied so that the algorithm for generating Hebrew words will be able to compute the correct spelling of all the inflectional forms. Four root letters are provided; an asterisk (*) is used where a root letter is lacking, so that triliteral roots are recorded as *MLK**. Words that do not follow the Hebrew system of inflection are not included in the data.

2.4.2 Syntactic Function (A)

This category corresponds to the classification of terminal symbols previously described in Section 2.2.2.4 and listed in Table 2-3; it defines the word's function as a symbol in the grammar of syntax.

---

[41] Haiim B. Rosen, *A Textbook of Israeli Hebrew*, The University of Chicago Press, 1969.

Only the following classifications are used:

A - Adjective
B - Number
C - Conjunctive
D - Adverb
L - Negative
N - Noun
O - Objective Particle
P - Preposition
Q - Interrogative
R - Pronoun
U - Particle
V - Verb

This does not include the definite article (H), punctuation (T), contructs (G, I, J, and Y), and verbal nouns (E and W, which are classified as verbs).

2.4.3 Function Class (C)

This is a subcategory under syntactic function; it corresponds to the classes of the various terminal symbols as outlined in Section 2.2.2.4. For example, the classes of nouns are:

Class 1 - improper nouns
Class 2 - proper place names
Class 3 - proper personal names

2.4.4 Syntactic Gender (G)

This category applies to nouns only; for all other words its value is 0. It defines the gender of adjectives, verbals, and pronouns that may modify the given word in a sentence (i.e., its syntactic gender). For some words the inflectional gender does not correspond with the syntactic gender. This is corrected by the number-gender transform defined later.

2.4.5 Prepositional Class (R)

Some verbs in Hebrew govern an object with a preposition (see Section 2.2.2.4.18). This category corresponds to subscript r of the grammar symbols; it specifies the preposition type required to complete the meaning of such verbs, and it specifies the class of prepositions. See Section 2.2.2.4.13 for the classification of prepositions. For other words this category is listed as 0.

2.4.6 Voice (V)

This category specifies the *voice* of verbals. It corresponds to subscript v of the grammar symbols. The *voice* of a verb is often specified by the derived stem. However, since there are numerous exceptions, this category is required. For nonverbals this category is listed as 0.

2.4.7 Inflection Class (U)

This category specifies the inflection pattern to be used by the algorithm for generating Hebrew words. The words are categorized as follows:

Class 1 - Verbs
Class 2 - Participles
Class 3 - Infinitives
Class 4 - Nouns, Numbers, Adjectives
Class 5 - Pronouns
Class 6 - Prepositions, Object Particle
Class 7 - Others

2.4.8 Stem (S)

This category specifies the derived stem form of the given word. The forms are different for verbs and nonverbs. Table 2-4 lists stem forms for verbs; Table 2-5 lists the stem forms for nonverbs. Uninflected words follow the stem forms of Table 2-5 in accordance with the masculine singular absolute inflection. The tables specify the general form of the stem in that the numerals stand in place of the corresponding root letter. Thus the numeral 2 stands in place of the second root letter, and the form H12Y3, when applied to the root BDL*, produces the stem HBDYL.

Table 2-4

STEM FORMS FOR VERBALS

Stem Code	Stem Form	Stem Name	Mode	Voice
02*	12W3	Qal	Simple	Passive
03	N123	Niphal	Simple	Passive
04	1Y23	Piel	Intensive	Active
05	1W23	Pual	Intensive	Passive
06	HT123	Hithpael	Simple	Reflexive
07	H12Y3	Hiphil	Causative	Active
08	HW123	Hophal	Causative	Passive
09	1W22	Polel	Intensive	Passive
10	HT1W22	Hithpolel	Simple	Reflexive
11	123	Qal (qaṭōl/yiqṭal)	Simple	Stative
12	123	Qal (qaṭal/yiqṭel)	Simple	Active
13	123	Qal (qaṭel/yiqṭal)	Simple	Stative
14	123	Qal (qaṭal/yiqṭōl)	Simple	Active

*--For Participles only

Table 2-5

STEM FORMS FOR NONVERBALS

Stem Code	Stem Form	Example	
01	1234	MLK	king
02	12Y3	SOYR	goat
03	12W3	OMWQ	deep
04	1W23	OWLM	eternity
05	1Y23	AYLM	dumb
06	1Y2W3	QY@WR	smoke
07	A1234	A&BO	finger
08	A12W3	AGRWP	fist
09	H1234	HNPH	a swinging
10	H12Y3	HBDYL	difference
11	H12W3	HRDWP	oleander
12	M1234	MAKL	food
13	M12Y3	MZBYX	altar
14	M12W3	MXCWR	want
15	T1234	TPAR (T)	glory
16	T12Y3	TLMYD	pupil
17	T12W3	TGMWL	benefit
18	N1234	NPTL	tortuous
19	1234Y	RGLY	footman
20	N12W3	NPTWL (YM)	wrestling
21	S1234	SLHB (T)	flame
22	1234N	SLXN	table
23	1234WN	ABDWN	destruction

Table 2-5 (continued)

STEM FORMS FOR NONVERBALS

Stem Code	Stem Form	Example	
24	1(23)4	AYS	man
25	(123)4	AYSH	woman
26	12(34)	AXWT	sister
27	1(23)4	AB	father
28	1(234)	PH	mouth
29	1(234)	BYYT	house
30	1(234)	BT	daughter
31	1234(Y)	SARYT	remainder
32	1234(W)	MLKWT	kingdom
33	123(4)	QNAY	infant
34	12(34)	AMH	mother
35	1(23)4	YWM	day
36	1(23)4	KLY	vessel
37	HT1234W	HTLKDWT	cohesion
38	1(23)4	KMW	like
39	12(34)	AXD	one
40	A12Y3	AB@YX	watermelon
41	123W4	BQBWO	bottle
42	123Y4	KR@YC	ticket

In table 2-5, Stem Forms 24 through 42 (with a few exceptions) represent stems that are inflected in an irregular fashion. Table 2-6 lists the stem form for every inflection of these irregular forms.

2.4.9 Stem Class (F)

This is a subcategory under Stem. This classification is required to account for variant stem forms within a given stem category. All words in this present work are classified as category 1. Additional work is required to catalogue stem variants, particularly for the Niphal, Hiphil, and Qal Stems of the verbs.

2.4.10 Number-Gender Transform (X)

For some Hebrew nonverbal words the inflectional number and gender do not correspond with the syntactic number and gender. This category provides the code for transforming syntactic number and gender to the corresponding inflectional number and gender. This eliminates the need for new stems to account for all observable perturbations. Table 2-7 lists the transformations associated with each code. The table is interpreted as follows: Code 0 means that no transformation is required; Code 2 means that syntactic feminine singular is changed to inflectional masculine singular, otherwise no change (example: A&BO, A&BOWT--*finger*); Code 6 means that syntactic feminine is always changed to masculine (example: OYR, ORYM--*city*); Code 11 means that syntactic number is always changed to dual (example: OYYN--*eye*).

2.4.11 Feminine Singular Class (H)

The feminine singular absolute inflection of some Hebrew nouns, adjectives, and participles has the suffix *H*. The others have *T*. This category specifies which is the be used for a given word. For Code 0 the suffix is *H;* for Code 1 it is *T*. For verbs the code specifies the suffix used with the participle. This category eliminates the necessity of providing alternate stems for each case.

2.4.12 Historic Period

Four code numbers specify the use of a given word in four historic periods: Classical, Mishnaic, Medieval, and Modern, respectively. Code 0 means that the word is not found in the literature of the associated period; Code 1 means that it is found. For example, the Code 0101 means that the word is found in Mishnaic and Modern Hebrew literature only.

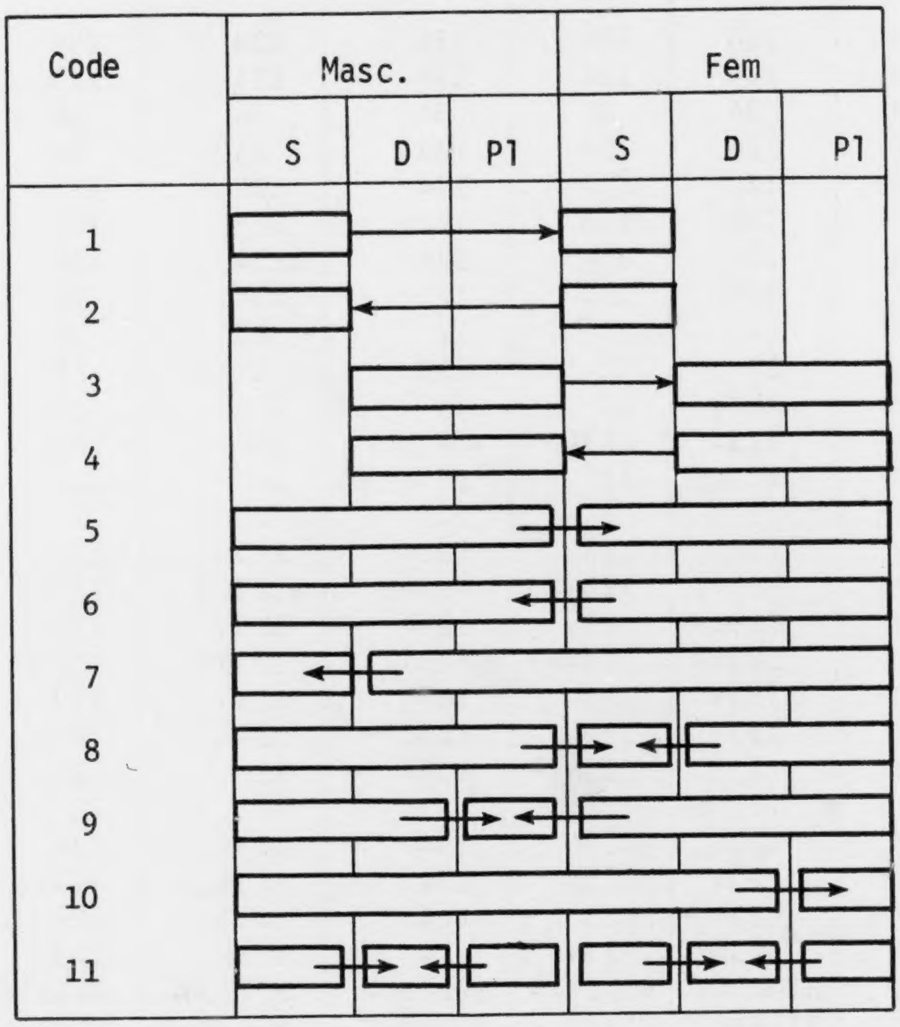
Table 2-6

STEM FORMS OF IRREGULAR NONVERBALS

Sem	Gen.	Absolute			Construct		
		Sing	Dual	Plur	Sing	Dual	Plur
24	M	124	134	134	124	134	134
	F	124	124	134	124	124	134
25	M	34	34	34	34	34	34
	F	124	124	124	14	14	14
26	M	123	124	124	123	124	124
	F	123	123	124	123	123	124
27	M	124	124	124	1234	124	124
	F	124	124	124	1234	124	124
28	M	14	12	12	12	12	12
	F	12	12	123	12	12	123
29	M	1234	14	14	124	14	14
	F	1234	1234	14	124	124	14
30	M	12	12	12	12	12	12
	F	1	1	12	1	1	12
31	M	1234	1234	1234	1234	1234	1234
	F	1234Y	1234Y	1234Y	1234Y	1234Y	1234Y
32	M	1234	1234	1234	1234	1234	1234
	F	1234W	1234W	1234W	1234W	1234W	1234W
33	M	1234	123	123	1234	123	123
	F	1234	1234	1234	1234	1234	1234
34	M	12	1234	1234	12	1234	1234
	F	12	12	1234	12	12	1234
35	M	1234	1234	134	1234	134	134
	F	1234	1234	134	1234	1234	134
36	M	1234	124	124	1234	124	124
	F	1234	1234	124	1234	1234	124
37	M	HT1234W	HT1234W	HT1234W	HT1234W	HT1234W	HT1234W
	F	HT1234W	HT1234W	HT1234W	HT1234W	HT1234W	HT1234W
38	M	14	1234	1234	123	123	123
	F	14	1234	1234	123	123	123
39	M	1234	1234	1234	1234	1234	1234
	F	124	124	1234	124	124	1234
40	M	A12Y3	A12Y3	A12Y3	A12Y3	A12Y3	A12Y3
	F	A12Y3	A12Y3	A12Y3	A12Y3	A12Y3	A12Y3

Table 2-7

NUMBER-GENDER TRANSFORMS


Code
Masc.
Fem
S
D
Pl
S
D
Pl
1
2
3
4
5
6
7
8
9
10
11

2.4.13 English Meaning

The last classification provides the equivalent English meaning. Words with alternate meanings require duplicate entries.

2.5. Conclusions

The generalized complex-constituent phrases-structure grammar, as specifically applied to modern Hebrew herein, was found to be suitable for accurately defining the syntax and orthography of a Semitic language, and to be suitable for mechanization on a computer. This was demonstrated by the high degree of success achieved in producing a computerized algorithm for generating Hebrew sentences (described in Part III), in producing a computerized algorithm for analyzing Hebrew sentences (described in Part IV), and in testing the rules of the Hebrew grammar by means of the computer. Of the 47 sentences generated, 42 were grammatically correct, two were correct except for a superfluous period, and three contained errors that required further modification of the rules. In the process of generating these sentences, a large percentage of the rules were tested, and in numerous cases the rules were modified to correct deficiencies and errors in their original version.

The results of the test indicate that the grammar of Hebrew is essentially correct, but that some of the rules are in need of further development. In all cases, where errors occurred, they were due to the content of the rules and not to the form of the grammar. There are three areas where further development is needed in the syntax grammar. First, the remaining rules, which have not been tested, should be verified by means of the computer. Second, in the case of some symbols, the specific linguistic feature and its associated semantic values are not clearly defined (for example, quantification). It is evident that in some of these cases, existing rules must be reorganized to simplify and facilitate such a clear definition. Finally, in some cases, certain linguistic features and classifications have not yet been included in the grammar (for example, qualifiers). These features should be included as they are defined.

The results of this research provide good reason to believe that the generalized grammar can be successfully applied to other Semitic languages such as Arabic.

Appendix

PART II

APPENDIX A

HEBREW-ENGLISH DICTIONARY

PART II

APPENDIX A

HEBREW-ENGLISH DICTIONARY

This appendix contains a dictionary of the 1040 most commonly used words in modern Hebrew. The words are classified for use in the complex-constituent phrase-structure grammar of modern Hebrew defined in the main body of this part of the report. The classification system is described in Section 2.4.

The words are listed first in alphabetic order by root to provide a Hebrew to English Dictionary. Because of the transliteration (see Table 2-1) used for the Hebrew characters, the order is not that usually found for Hebrew.

The words also are listed in alphabetic order of the English equivalent to provide an English to Hebrew dictionary. The words are listed only once in the order of the first English meaning.

```
COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.  ROOT  A  C  G  R  V  U   S  F  X  H  PERIOD        ENGLISH EQUIV.

  1  ABA*  N  1  M  0  0  4  26  1  3  0   0001         FATHER
  2  ABB*  N  1  M  0  0  4   2  1  0  0   1111         SPRING
  3  ABD*  V  2  0  0  1  1  13  1  0  0   1111         GET LOST
  4  ABN*  N  3  M  0  0  4   1  1  7  0   0001         PERSONAL NAME
  5  ABL*  C  8  0  0  0  7   1  1  0  0   1111         BUT
  6  ABN*  N  1  F  0  0  4   1  1  6  0   1111         STONE
  7  ABQ*  N  1  M  0  0  4   1  1  7  0   1111         DUST
  8  ABY*  N  1  M  0  0  4  27  1  3  0   1110         FATHER
  9  ACN*  N  1  M  0  0  4   3  1  3  0   1111         MISFORTUNE, ACCIDENT
 10  ACR*  A  1  0  0  0  4   3  1  0  0   1111         FORBIDDEN, PROHIBITED
 11  ACR*  N  1  M  0  0  4   3  1  0  0   1111         IMPRISONED
 12  ADM*  A  1  0  0  0  4   3  1  0  0   1111         RED
 13  ADM*  N  1  M  0  0  4   1  1  7  0   1111         HUMAN BEING, MAN
 14  ADM*  N  1  F  0  0  4   1  1  0  0   1111         EARTH, SOIL
 15  ADM*  N  3  M  0  0  4   1  1  7  0   1111         ADAM
 16  ADN*  N  1  M  0  0  4   3  1  0  0   1111         MASTER, SIR, MISTER
 17  AGR*  N  1  F  0  0  4   3  1  0  0   0001         COIN (OF LITTLE VALUE)
 18  AHB*  N  1  F  0  0  4   1  1  0  0   1111         LOVE, AMOUR
 19  AHB*  V  3  0  0  1  1  12  1  0  0   1111         LOVE, LIKE
 20  AHB*  V  6  0  0  1  1  12  1  0  0   1111         LOVE TO--, LIKE TO--
 21  AHL*  N  2  M  0  0  4   4  1  0  0   1111         TENT
 22  AK**  Q  2  0  0  0  4   5  1  0  0   1111         HOW
 23  AKL*  V  2  0  0  1  1  13  1  0  0   1111         EAT
 24  AKL*  V  3  0  0  1  1  13  1  0  0   1111         EAT
 25  AKPT  V  5  0  1  1  1  13  1  0  0   0111         CONCERN, CARE
 26  AL**  P  6  0  6  0  6   1  1  0  0   1111         TO
 27  AL**  L  4  0  0  0  4   1  1  0  0   1111         DO NOT
 28  ALA*  C  8  0  0  0  7   1  1  0  0   1111         BUT, RATHER
 29  ALH*  R  1  M  0  0  5   1  1  0  0   1111         THESE
 30  ALH*  R  1  F  0  0  5   1  1  0  0   1111         THESE
```

```
COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.  ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD          ENGLISH EQUIV.


 31  ALP*  B  6  M  0  0  4  1  1  0  0   1111           THOUSAND
 32  ALwH  N  1  M  0  0  4 34  1  9  0   1111           GOD
 33  ALwH  N  1  M  0  0  4 34  1  0  0   1111           GOD
 34  ALwH  N  1  F  0  0  4 34  1  0  1   1111           GODDESS
 35  ALW*  U  7  0  0  0  7  5  1  0  0   1111           IF
 36  AM**  C  6  0  0  0  7  1  1  0  0   1111           IF, WHETHER
 37  AMA*  N  3  F  0  0  4  1  1  8  0   0001           MOM
 38  AMB@  N  1  F  0  0  4 19  1  0  0   0111           BATHTUB, BATHROOM
 39  AMH*  N  1  F  0  0  4 34  1  0  0   1111           MOTHER
 40  AM&O  N  1  M  0  0  4  1  1  0  0   0111           MIDDLE
 41  AMN*  V  5  0  1  1  1  7  1  0  0   1111           TRUST
 42  AMN*  V  5  0  2  1  1  7  1  0  0   1111           BELIEVE
 43  AMR*  V  7  0  0  1  1 13  1  0  0   1111           SAY
 44  AMT*  N  1  F  0  0  4  7  1  0  1   1111           TRUTH
 45  ANY*  N  1  F  0  0  4  4  1  0  0   1111           SHIP, VESSEL
 46  ANY*  R  2  M  0  0  5  1  1  0  0   1111           I
 47  ANY*  R  2  F  0  0  5  1  1  0  0   1111           I
 48  AP**  N  1  M  0  0  4  1  1  0  0   1111           NOSE
 49  APLW  D  4  0  0  0  4  2  1  0  0   1111           EVEN
 50  APN*  N  1  M  0  0  4  4  1  0  0   0001           WAY, STYLE
 51  APSR  D  3  0  0  0  4  1  1  0  0   0111           POSSIBLE, PERHAPS
 52  A&L*  P 13  0 13  0  6  1  1  0  0   1111           BESIDE, NEAR, AT, WITH
 53  AR&*  N  1  F  0  0  4  1  1  0  0   1111           COUNTRY, LAND, EARTH
 54  ARK*  A  1  0  0  0  4  3  1  0  0   1111           LONG
 55  ARN*  N  1  M  0  0  4  3  1  3  0   1111           CUPBOARD, CLOSET; ARK; COFFIN
 56  ARNQ  N  1  M  0  0  4  7  1  0  0   0001           HANDBAG, PURSE, BILLFOLD, COINHOLDER
 57  AS**  N  1  F  0  0  4  1  1  7  0   1111           FIRE
 58  ASR*  R  4  0  0  0  5  1  1  0  0   1111           THAT, WHICH
 59  AT**  O  1  0  0  0  6  1  1  0  0   1111           THE OBJECT PARTICLE
 60  AT**  R  2  F  0  0  5  1  1  0  1   1111           YOU (ONE FEMALE)
```

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
61	ATH*	R	2	M	0	0	5	1	1	0	0	1111	YOU (ONE MALE)
62	ATM*	R	2	M	0	0	5	1	1	0	0	1111	YOU (MALES)
63	ATML	D	1	M	0	0	4	3	1	0	0	1111	YESTERDAY
64	ATN*	R	2	F	0	0	5	1	1	0	0	1111	YOU (FEMALES)
65	AW**	C	2	0	0	0	7	1	1	0	0	1111	OR
66	AWLY	D	3	0	0	0	4	1	1	0	0	1111	PERHAPS, MAYBE
67	AWR*	N	1	M	0	0	4	4	1	0	0	1111	LIGHT
68	AWR*	N	1	M	0	0	4	4	1	3	0	1111	LIGHT
69	AWR*	N	2	M	0	0	4	2	1	7	0	1111	AIR, ATMOSPHERE
70	AWSR	A	1	0	0	0	4	12	1	0	0	0111	HAPPY
71	AWT*	N	1	F	0	0	4	1	1	0	1	1111	LETTER
72	AWT*	N	1	M	0	0	4	4	1	0	0	1111	SIGN; MIRACLE
73	AWXR	A	1	0	0	0	4	12	1	0	0	0111	LATE, DELAYED
74	AWXR	D	1	0	0	0	4	12	1	0	0	0111	LATE
75	AXD*	A	1	0	0	0	4	1	1	0	0	1111	SOME ONE
76	AXD*	A	1	0	0	0	4	39	1	0	1	1111	SOME ONE
77	AXD*	B	1	F	0	0	4	39	1	0	1	1111	ONE
78	AXD*	B	1	M	0	0	4	39	1	0	0	1111	ONE
79	AXR*	A	1	0	0	0	4	1	1	0	0	1111	OTHER
80	AXR*	A	1	0	0	0	4	23	1	0	0	1111	LAST
81	AXR*	P	12	0	12	0	6	19	1	0	0	1111	AFTER
82	AXRA	A	1	0	0	0	4	19	1	0	0	0111	RESPONSIBLE
83	AXWY	N	1	F	0	0	4	26	1	0	1	1111	SISTER
84	AXY*	N	1	M	0	0	4	27	1	0	0	1111	BROTHER
85	AYN*	L	2	0	0	0	6	5	1	0	0	1111	THERE IS (ARE) NOT
86	AYNS	N	1	M	0	0	4	24	1	0	0	1111	MAN, PERSON
87	AYNS	N	1	F	0	0	4	25	1	4	0	1111	WOMAN
88	AYPH	Q	2	0	0	0	4	1	1	0	0	1111	WHERE
89	AYZH	R	5	M	0	0	5	5	1	0	0	1111	WHICH?
90	AZ**	D	1	0	0	0	4	1	1	0	0	1111	THEN

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
91	AZN*	N	1	F	0	0	4	4	1	12	0	1111	EAR
92	B***	P	2	0	2	0	6	1	1	0	0	1111	IN, AT, WITH, BY
93	BAR*	N	1	F	0	0	4	1	1	0	0	1111	WELL
94	BCDR	N	1	0	0	0	4	1	1	7	0	0001	O.K., ALL RIGHT
95	BD**	N	1	M	0	0	4	1	1	0	0	1111	TEXTILE MATERIAL, FABRIC, LINEN
96	BDL*	N	1	M	0	0	4	9	1	0	0	0001	DIFFERENCE
97	BGD*	N	1	M	0	0	4	1	1	0	0	1111	GARMENT
98	B@N*	N	1	F	0	0	4	1	1	6	0	1111	BELLY, WOMB, BOWELS
99	B@X*	A	1	0	0	0	4	3	1	0	0	1111	SURE, SAFE
100	B@X*	N	1	M	0	0	4	40	1	0	0	0001	WATERMELON
101	BKH*	V	2	0	0	1	1	14	1	0	0	1111	WEEP, CRY
102	BKLL	D	4	0	0	0	4	1	1	0	0	0011	AT ALL, IN GENERAL
103	BLY*	P	13	0	13	0	4	1	1	0	0	1111	WITHOUT
104	BN**	N	1	M	0	0	4	30	1	0	0	1111	SON, CHILD
105	BNH*	V	8	0	0	1	1	14	1	0	0	1111	BUILD, CONSTRUCT
106	BNY*	N	1	M	0	0	4	22	1	0	0	1111	BUILDING, STRUCTURE
107	BOD*	P	13	0	13	0	6	1	1	0	0	1111	IN PAYMENT OF, FOR, THROUGH
108	BOL*	N	1	M	0	0	4	1	1	0	0	1111	HUSBAND, OWNER
109	BOR*	V	3	0	0	1	1	13	1	0	0	1110	BURN
110	BOR*	V	2	0	0	1	1	13	1	0	0	1111	BURN
111	BQS*	V	4	0	5	1	1	4	1	0	0	1111	ASK (SOMETHING) FROM (SOMEONE)
112	BQBQ	N	1	M	0	0	4	41	1	0	0	1111	BOTTLE
113	BQR*	N	1	M	0	0	4	4	1	0	0	1111	MORNING
114	BQR*	V	3	0	0	1	1	4	1	0	0	1111	VISIT
115	BQS*	V	3	0	0	1	1	4	1	0	0	1111	ASK FOR, DEMAND, REQUEST, BEG
116	BQS*	V	7	0	0	1	1	4	1	0	0	1111	ASK
117	BRA*	A	1	0	0	0	4	2	1	0	0	1111	WELL, HEALTHY
118	BRK*	N	1	F	0	0	4	1	1	0	0	1111	GREETING, REGARDS, BLESSING
119	BRK*	V	3	0	0	1	1	4	1	0	0	1111	GREET
120	BRK*	V	8	0	0	1	1	4	1	0	0	1111	BLESS (SOMEONE) WITH (SOMETHING)

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
121	BRR*	A	1	0	0	0	4	3	1	0	0	1111	CLEAR
122	BRS*	N	1	F	0	0	4	12	1	0	1	0001	BRUSH
123	BRX*	V	5	0	5	1	1	4	1	0	0	1111	FLEE FROM
124	BRZ*	N	1	M	0	0	4	1	1	0	0	1111	FAUCET, TAP
125	BRZL	N	1	M	0	0	4	1	1	0	0	1111	IRON
126	BSL*	V	4	0	1	1	1	4	1	0	0	1111	COOK
127	BSR*	N	1	M	0	0	4	1	1	0	0	1111	MEAT
128	BT**	N	1	F	0	0	4	30	1	0	1	1111	DAUGHTER, GIRL
129	BTWK	P	2	0	2	0	6	1	1	0	0	1111	INSIDE OF, WITHIN
130	BWA*	V	2	0	0	1	1	14	1	0	0	1111	COME, ARRIVE
131	BWA*	V	4	0	1	1	1	7	1	0	0	1111	BRING, LEAD IN
132	BWA*	N	1	F	0	0	4	15	1	0	0	1111	GRAIN PRODUCE
133	BWL*	N	1	M	0	0	4	1	1	0	0	0001	STAMP
134	BXN*	V	3	0	0	1	1	13	1	0	0	1111	TEST, EXAMINE
135	BXR*	N	1	M	0	0	4	3	1	0	0	1111	YOUNG MAN, BOY, GUY
136	BXR*	N	1	F	0	0	4	3	1	0	0	1111	YOUNG LADY, GIRL
137	BXR*	V	3	0	0	1	1	13	1	0	0	1111	CHOOSE, SELECT, ELECT
138	BY&*	N	1	F	0	0	4	1	1	4	0	1111	EGG
139	BYN*	P	13	0	0	0	6	1	1	0	0	1111	BETWEEN, AMONG
140	BYN*	V	3	0	0	1	1	7	1	0	0	1111	UNDERSTAND
141	BYT*	N	1	M	0	0	4	29	1	0	0	1111	HOUSE
142	CB**	N	1	F	0	0	4	5	1	0	0	1111	REASON, CAUSE
143	CBA*	N	3	M	0	0	4	1	1	0	0	0001	PROPER NAME
144	CBA*	N	3	M	0	0	4	1	1	7	0	1111	GRANDPA (FAMILIAR STYLE)
145	CBB*	D	2	0	0	0	4	2	1	0	0	1111	ROUND ABOUT, AROUND
146	CBL*	V	3	0	0	1	1	14	1	0	0	1111	SUFFER, TOLERATE, BEAR
147	CBN*	N	1	M	0	0	4	3	1	0	0	0001	SOAP
148	CBR*	V	4	0	1	1	1	7	1	0	0	0111	EXPLAIN
149	CBTA	N	3	F	0	0	4	1	1	0	0	0001	GRANDMA (FAMILIAR STYLE)
150	CDR*	N	1	M	0	0	4	1	1	0	0	0111	ARRANGEMENT, PASSOVER EVE SERVICE

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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.  ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD          ENGLISH EQUIV.


151  CDR*  V  3  0  0  1  1  4  1  0  0   0111           ARRANGE
152  CGL*  N  1  M  0  0  4  1  1  7  0   0001           STAFF
153  CPR*  N  1  F  0  0  4 19  1  0  0   0001           LIBRARY
154  CGR*  V  3  0  0  1  1 14  1  0  0   1111           SHUT, CLOSE
155  CKM*  V  2  0  1  1  1  7  1  0  0   0111           CONSENT, AGREE
156  CKN*  A  1  0  0  0  4 12  1  0  0   0001           MISERABLE, PITIABLE, POOR
157  CKN*  N  1  F  0  0  4  1  1  0  0   0111           DANGER
158  CKN*  N  1  M  0  0  4  2  1  0  0   0111           KNIFE
159  CKN*  N  1  F  0  0  4  2  1  6  0   0111           KNIFE
160  CKR*  N  1  M  0  0  4  4  1  7  0   0001           SUGAR
161  CL**  N  1  M  0  0  4  1  1  0  0   1111           BASKET, SHOPPING BAG
162  CLM*  N  1  M  0  0  4  4  1  3  0   0111           LADDER
163  CLM*  N  1  M  0  0  4  4  1  0  0   0111           LADDER
164  CLN*  N  1  M  0  0  4  3  1  0  0   0001           BOUDOIR, BEAUTY SHOP
165  CLX*  N  1  F  0  0  4  2  1  0  0   1111           PARDON ME, FORGIVENESS
166  CMK*  V  4  0  1  1  1  7  1  0  0   0111           AUTHORIZE
167  CMN*  N  1  M  0  0  4  5  1  0  0   0111           SIGN, INDICATION, SYMPTOM
168  CMR*  N  1  M  0  0  4 12  1  0  0   1111           NAIL (NOT OF THE FINGER OR TOE)
169  COD*  N  1  M  0  0  4  1  1  7  0   1111           SUPPORT, WELFARE
170  COD*  N  1  F  0  0  4 12  1  0  0   0001           RESTAURANT
171  COR*  N  1  F  0  0  4  1  1  0  0   1111           STORM
172  CP**  N  1  F  0  0  4  1  1  0  0   1111           COUCH, SOFA
173  CPL*  N  1  M  0  0  4  1  1  0  0   0001           CUP
174  CPQ*  N  1  M  0  0  4  1  1  3  0   0111           DOUBT
175  CPR*  N  1  M  0  0  4  1  1  0  0   1111           BOOK, LETTER, SCROLL
176  CPR*  N  1  M  0  0  4  1  1  0  0   0011           BARBER
177  CPR*  N  1  M  0  0  4  4  1  0  0   1111           WRITER, REPORTER
178  CPR*  N  1  M  0  0  4  6  1  0  0   1111           TALE, STORY
179  CPR*  N  1  M  0  0  4 12  1  0  0   1111           NUMBER
180  CPR*  N  1  F  0  0  4 12  1  0  0   0001           BARBERSHOP
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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
181	CPR*	V	3	0	0	1	1	4	1	0	0	0111	CUT HAIR
182	CPR*	V	3	0	0	1	1	14	1	0	0	1111	COUNT, TAKE A CENSUS OF
183	CPR*	V	4	0	1	1	1	4	1	0	0	1111	RELATE, TELL
184	CPRW	N	1	F	0	0	4	1	1	0	1	0001	LITERATURE
185	CRG*	N	1	M	0	0	4	1	1	0	0	0111	MOVIE FILM, RIBBON
186	CRG*	N	1	M	0	0	4	12	1	3	0	0001	COMB
187	CTW*	N	1	M	0	0	4	2	1	7	0	0001	AUTUMN, FALL
188	CTW*	N	1	M	0	0	4	2	1	0	0	1111	AUTUMN, FALL
189	CWC*	N	1	M	0	0	4	1	1	0	0	1111	HORSE
190	CWD*	N	1	M	0	0	4	1	1	3	0	1111	SECRET
191	CWG*	N	1	M	0	0	4	1	1	0	0	0111	CATEGORY
192	CWP*	N	1	M	0	0	4	1	1	7	0	1111	END
193	CXR*	N	1	F	0	0	4	3	1	0	0	1111	MERCHANDISE
194	CXR*	N	1	M	0	0	4	4	1	0	0	1111	MERCHANT, DEALER
195	CXR*	N	1	M	0	0	4	12	1	7	0	0111	COMMERCE
196	CYK*	N	1	F	0	0	4	1	1	0	0	0001	PIN, BROOCH
197	CYR*	N	1	M	0	0	4	1	1	0	0	1111	POT
198	CYR*	N	1	F	0	0	4	1	1	0	0	1111	BOAT
199	DAG*	V	5	0	4	1	1	13	1	0	0	1111	FEAR
200	DAG*	V	5	0	1	1	1	13	1	0	0	1111	TAKE CARE, WORRY
201	DBR*	N	1	M	0	0	4	1	1	0	0	1111	THING, FACT
202	DBR*	N	1	M	0	0	4	12	1	0	0	1111	DESERT, WILDERNESS
203	DBR*	N	1	M	0	0	4	12	1	3	0	1111	DESERT, WILDERNESS
204	DBR*	V	2	0	0	1	1	4	1	0	0	1111	SPEAK
205	DBR*	V	5	0	2	1	1	4	1	0	0	1111	TALK ABOUT (SOMETHING)
206	DBS*	N	1	M	0	0	4	1	1	7	0	1111	HONEY
207	DG**	N	1	M	0	0	4	1	1	0	0	1111	FISH
208	DGL*	N	1	M	0	0	4	1	1	0	0	1111	FLAG
209	DGM*	N	1	F	0	0	4	4	1	0	0	0001	PATTERN, MODEL
210	DLG*	V	3	0	0	1	1	7	1	0	0	1111	LIGHT, KINDLE, TURN ON

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
211	DLT*	N	1	F	0	0	4	1	1	0	1	1111	DOOR
212	DM**	N	1	M	0	0	4	1	1	0	0	1111	BLOOD
213	DMH*	A	1	0	0	0	4	4	1	0	0	0111	SIMILAR
214	DO**	N	1	F	0	0	4	1	1	0	0	1111	POINT OF VIEW
215	DP**	N	1	M	0	0	4	1	1	0	0	0111	SHEET (OF WRITING PAPER)
216	DPC*	V	2	0	0	2	1	3	1	0	0	0001	TO BE PRINTED
217	DQ**	A	1	0	0	0	4	1	1	0	0	1111	THIN
218	DQH*	N	1	F	0	0	4	1	1	0	0	0111	MINUTE
219	DR**	N	1	F	0	0	4	5	1	0	0	0111	APARTMENT, FLAT
220	DRG*	N	1	F	0	0	4	12	1	0	0	0111	STEP, RUNG, SCALE
221	DRK*	N	1	F	0	0	4	1	1	6	0	1111	WAY, ROAD
222	DRK*	N	1	M	0	0	4	1	1	6	0	1111	WAY, ROAD
223	DRM*	N	1	M	0	0	4	3	1	7	0	1111	SOUTH
224	DRS*	V	3	0	0	1	1	14	1	0	0	1111	REQUIRE, DEMAND
225	DWD*	N	1	M	0	0	4	1	1	0	0	1111	UNCLE
226	DWD*	N	1	F	0	0	4	1	1	0	0	1111	AUNT
227	DWQA	D	3	0	0	0	4	4	1	0	0	0111	ONLY THUS, EXACTLY
228	DXP*	A	1	0	0	0	4	3	1	0	0	0111	URGENT
229	DY**	D	4	0	0	0	4	1	1	0	0	1111	RATHER
230	DYC*	N	1	F	0	0	4	5	1	0	0	0001	PORRIDGE, MEDLEY
231	DYW*	N	1	M	0	0	4	1	1	7	0	1111	INK
232	DYW*	N	1	F	0	0	4	1	1	7	0	1111	INK
233	GBH*	A	1	0	0	0	4	3	1	0	0	1111	HIGH
234	GBL*	N	1	M	0	0	4	3	1	3	0	1111	FRONTIER, BORDER, LIMIT
235	GBN*	N	1	F	0	0	4	2	1	0	0	0111	CHEESE
236	GBO*	N	1	F	0	0	4	1	1	0	0	1111	HILL
237	GBR*	N	1	F	0	0	4	1	1	0	1	1111	MISS, MRS.
238	GBR*	N	1	M	0	0	4	6	1	0	0	1111	HERO, STRONG MAN
239	GDL*	A	1	0	0	0	4	3	1	0	0	1111	BIG, LARGE, GREAT
240	GDR*	N	1	F	0	0	4	1	1	2	0	1111	FENCE

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
241	GDR*	N	1	F	0	0	4	1	1	6	0	1111	FENCE
242	GG**	N	1	M	0	0	4	1	1	3	0	1111	ROOF
243	GG**	N	1	M	0	0	4	1	1	0	0	1111	ROOF
244	GH&*	N	1	M	0	0	4	12	1	0	0	0001	FLAT-IRON
245	GLGL	N	1	M	0	0	4	1	1	0	0	1111	WHEEL
246	GM**	D	3	0	0	0	7	1	1	0	0	1111	ALSO, TOO
247	GMR*	V	3	0	0	1	1	14	1	0	0	1111	FINISH
248	GN**	N	1	M	0	0	4	1	1	0	0	1111	GARDEN, PARK
249	GNB*	V	3	0	0	1	1	14	1	0	0	1111	STEAL
250	GPRR	N	1	M	0	0	4	41	1	0	0	0001	MATCH
251	GRB*	N	1	M	0	0	4	1	1	14	0	0001	SOCK, STOCKING
252	GRS*	N	1	M	0	0	4	3	1	0	0	0001	PIASTER, A COIN
253	GRS*	N	1	M	0	0	4	12	1	0	0	1111	LOT, PLOT (OF LAND)
254	GSM*	N	1	M	0	0	4	1	1	0	0	1111	RAIN
255	GWP*	N	1	M	0	0	4	1	1	0	0	0111	BODY, SUBSTANCE, PERSON
256	GWP*	N	1	M	0	0	4	1	1	3	0	0111	BODY, SUBSTANCE, PERSON
257	GWR*	V	5	0	8	1	1	14	1	0	0	1111	DWELL WITH
258	GWR*	V	5	0	2	1	1	14	1	0	0	1111	LIVE AT
259	GYR*	N	1	M	0	0	4	1	1	0	0	0001	CHALK
260	H***	H	1	0	0	0	7	1	1	0	0	1111	THE
261	HLD*	N	1	F	0	0	4	4	1	7	1	1111	BIRTH
262	HLK*	V	2	0	0	1	1	12	1	0	0	1111	WALK, GO
263	HM**	R	2	M	0	0	5	1	1	0	0	1111	THEY (MALES)
264	HN**	R	2	F	0	0	5	1	1	0	0	1111	THEY (FEMALES)
265	HNH*	D	2	0	0	0	4	1	1	0	0	1111	HERE
266	HPK*	V	3	0	0	1	1	14	1	0	0	1111	REVERSE, CONVERT, OVERTURN
267	H&G*	N	1	F	0	0	4	1	1	0	0	0001	SHOW, PLAY, PRESENTATION
268	HR**	N	1	M	0	0	4	1	1	0	0	1111	MOUNTAIN
269	HRG*	V	3	0	0	1	1	14	1	0	0	1111	KILL
270	HRH*	N	1	M	0	0	4	4	1	9	0	1111	PARENTS

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
271	HwA*	R	2	M	0	0	5	1	1	0	0	1111	HE
272	HX&H	D	2	C	0	0	4	3	1	0	0	1111	OUTSIDE
273	HYA*	R	2	F	0	0	5	1	1	0	0	1111	SHE
274	HYH*	V	1	0	0	1	1	14	1	0	0	1111	TO BE
275	@A@A	N	1	M	0	0	4	12	1	0	0	1111	BROOM, FLOORBRUSH
276	@BO*	N	1	M	0	0	4	1	1	0	0	1111	NATURE
277	@BO*	N	1	F	0	0	4	1	1	0	1	1111	RING
278	@BX*	N	1	M	0	0	4	1	1	0	0	1111	COOK
279	@BX*	N	1	M	0	0	4	12	1	0	0	0001	KITCHEN
280	@HR*	A	1	0	0	0	4	3	1	0	0	1111	PURE
281	@OH*	N	1	F	0	0	4	3	1	0	1	0111	MISTAKE, ERROR
282	@OH*	V	2	0	0	1	1	14	1	0	0	0111	TO ERR
283	@OM*	N	1	M	0	0	4	1	1	0	0	1111	TASTE, REASON
284	@PS*	A	1	0	0	0	4	5	1	0	0	0111	FOOL
285	@PS*	A	1	0	0	0	4	5	1	0	0	0111	FOOL
286	@RY*	A	1	0	0	0	4	1	1	0	0	0001	FRESH
287	@wB*	A	1	0	0	0	4	1	1	0	0	1111	GOOD
288	@YL*	V	2	0	0	1	1	4	1	0	0	0001	TAKE A WALK
289	KAB*	N	1	M	0	0	4	1	1	0	0	1111	PAIN, ACHE
290	KAN*	D	2	0	0	0	4	1	1	0	0	0111	HERE
291	KASR	C	4	0	0	0	7	1	1	0	0	1111	WHEN
292	KBD*	A	1	0	0	0	4	1	1	0	0	1111	HEAVY, WEIGHTY
293	KBD*	N	1	M	0	0	4	3	1	7	0	1111	HONOR, RESPECT
294	KBO*	N	1	M	0	0	4	4	1	0	0	1111	CAP, HAT
295	KBR*	D	1	0	0	0	4	1	1	0	0	1111	ALREADY
296	KBS*	N	1	M	0	0	4	2	1	0	0	0001	(PAVED) ROAD
297	KCA*	N	1	M	0	0	4	1	1	3	0	1111	CHAIR
298	KCH*	V	3	0	0	1	1	4	1	0	0	1111	COVER
299	KCP*	N	1	M	0	0	4	1	1	0	0	1111	MONEY, SILVER
300	KDAY	A	1	0	0	0	4	1	1	0	0	0111	WORTHY, DESERVING

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
301	KDAY	D	4	0	0	0	4	1	1	0	0	0111	WORTHY, DESERVING
302	KDR*	N	1	M	0	0	4	3	1	0	0	1111	BALL, GLOBE, BULLET
303	KDY*	C	5	0	0	0	7	1	1	0	0	1111	IN ORDER
304	KK**	D	3	0	0	0	4	1	1	0	0	0111	THUS
305	KKB*	N	1	M	0	0	4	4	1	0	0	1111	STAR
306	KKH*	D	3	0	0	0	4	1	1	0	0	0111	SO, THUS
307	KLB*	N	1	M	0	0	4	1	1	0	0	1111	DOG
308	KLM*	R	6	0	0	0	4	3	1	0	0	1111	ANYTHING, NOTHING
309	KLY*	N	1	M	0	0	4	36	1	0	0	1111	RECEPTACLE, DISH, INSTRUMENT, VESSEL
310	KMBN	D	3	0	0	0	4	3	1	0	0	0011	OF COURSE
311	KMC*	A	1	0	0	0	4	3	1	0	0	1111	CONCEALED
312	KMOW	D	3	0	0	0	4	1	1	0	0	1111	ALMOST
313	KMW*	D	3	0	0	0	6	38	1	0	0	1111	LIKE
314	KN**	D	3	0	0	0	4	1	1	0	0	1111	YES
315	KNC*	N	1	F	0	0	4	1	1	0	1	0111	ELECTED ASSEMBLY
316	KNC*	N	1	F	0	0	4	2	1	0	0	0111	ENTRY, ENTRANCE
317	KNC*	V	2	0	0	1	1	3	1	0	0	0111	ENTER, COME IN
318	KNC*	V	4	0	1	1	1	7	1	0	0	1111	BRING IN, PUT
319	KNC*	V	5	0	6	1	1	3	1	0	0	1111	ENTER
320	KOC*	V	2	0	0	1	1	13	1	0	0	1111	TO BE ANGRY
321	KOC*	V	5	0	7	1	1	13	1	0	0	1111	TO BE ANGRY AT
322	KP**	N	1	F	0	0	4	1	1	0	0	1111	SPOON
323	KP**	N	1	F	0	0	4	1	1	12	0	1111	PALM, SOLE
324	KP**	N	1	F	0	0	4	2	1	0	1	0001	TEASPOON
325	KPR*	N	1	M	0	0	4	1	1	0	0	0111	VILLAGE
326	KPTR	N	1	M	0	0	4	41	1	0	0	1111	BUTTON
327	KR**	N	1	M	0	0	4	1	1	0	0	1111	PILLOW
328	KRWC	N	1	M	0	0	4	42	1	0	0	0111	TICKET, CARD
329	KRK*	N	1	M	0	0	4	1	1	0	0	0111	VOLUME, BUNDLE, SCROLL
330	KRM*	N	1	M	0	0	4	1	1	0	0	1111	VINEYARD

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
331	KS**	C	4	0	0	0	7	1	1	0	0	0011	WHEN
332	KSR*	N	1	M	0	0	4	13	1	0	0	0111	INSTRUMENT, TOOL, UTENSIL
333	KSR*	A	1	0	0	0	4	1	1	0	0	0111	QUALIFIED, FIT, KOSHER
334	KT**	N	1	F	0	0	4	5	1	0	0	0111	CLASS, SECT
335	KTB*	N	1	F	0	0	4	3	1	0	1	1111	ADDRESS, INSCRIPTION
336	KTB*	N	1	M	0	0	4	12	1	0	0	1111	LETTER, NOTE
337	KTB*	V	3	0	0	1	1	14	1	0	0	1111	WRITE
338	KwC*	N	1	F	0	0	4	1	1	0	0	1111	(A) GLASS
339	KwL*	N	1	F	0	0	4	12	1	8	1	1111	GROCERY STORE
340	KwL*	N	1	0	0	0	4	1	1	0	0	1111	ALL, EVERY, WHOLE, ANY
341	KwN*	A	1	0	0	0	4	18	1	0	0	1111	RIGHT, CORRECT
342	KwN*	V	2	0	0	1	1	10	1	0	0	1111	PREPARE (ONESELF)
343	KWN*	D	3	0	0	0	4	18	1	0	0	1111	CORRECTLY
344	KwX*	N	1	M	0	0	4	1	1	3	0	1111	POWER, FORCE
345	KXL*	A	1	0	0	0	4	3	1	0	0	0111	BLUE
346	KYC*	N	1	M	0	0	4	1	1	0	0	1111	POCKET
347	L***	P	1	0	1	0	6	1	1	0	0	1111	FOR, TO
348	LA@*	D	3	0	0	0	4	1	1	0	0	1111	SLOWLY
349	LAN*	Q	2	0	0	0	4	1	1	0	0	1111	WHERE, WHITHER
350	LB**	N	1	M	0	0	4	1	1	3	0	1111	HEART
351	LB**	N	1	M	0	0	4	28	1	0	0	1111	HEART
352	LBD*	D	3	0	0	0	4	1	1	0	0	1111	ALONE
353	LBN*	A	1	0	0	0	4	1	1	0	0	1111	WHITE
354	LBS*	V	2	0	0	3	1	6	1	0	0	1111	DRESS (ONESELF)
355	LBS*	V	3	0	0	1	1	13	1	0	0	1111	PUT ON, WEAR
356	LBS*	V	5	0	1	3	1	6	1	0	0	1111	DRESS (ONESELF) FOR (OCCASION)
357	LKN*	C	8	0	0	0	7	1	1	0	0	1111	THEREFORE
358	LMD*	N	1	M	0	0	4	16	1	0	0	0111	PUPIL, STUDENT
359	LMD*	N	1	F	0	0	4	16	1	0	0	0111	PUPIL, STUDENT
360	LMD*	V	8	0	0	1	1	4	1	0	0	1111	TEACH

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
361	LMD*	V	3	0	0	1	1	13	1	0	0	1111	LEARN
362	LMH*	Q	2	0	0	0	4	1	1	0	0	1111	WHY
363	LMWH	D	2	0	0	0	4	1	1	0	0	1111	DOWN, BELOW, DOWNSTAIRS
364	LQX*	V	3	0	0	1	1	13	1	0	0	1111	TAKE
365	LSN*	N	1	F	0	0	4	3	1	2	0	1111	TONGUE, LANGUAGE
366	LWA*	L	1	0	0	0	7	1	1	0	0	1111	NO, NOT
367	LWL*	N	1	M	0	0	4	1	1	0	0	1111	CHICKEN COOP
368	LWN*	N	1	M	0	0	4	12	1	3	0	1111	HOTEL
369	LWN*	N	1	M	0	0	4	12	1	0	0	1111	HOTEL
370	LXM*	V	5	0	2	1	1	3	1	0	0	1111	FIGHT, WAGE WAR
371	LXM*	N	1	M	0	0	4	1	1	0	0	1111	BREAD
372	LXM*	N	1	F	0	0	4	12	1	0	0	1111	WAR
373	LXS*	N	1	M	0	0	4	1	1	0	0	1111	WHISPER
374	LYL*	N	1	F	0	0	4	1	1	0	0	1111	NIGHT
375	LYRH	N	1	F	0	0	4	1	1	0	0	0001	POUND (MONEY)
376	M***	P	4	0	4	0	6	1	1	0	0	1111	FROM
377	MAD*	D	4	0	0	0	4	3	1	0	0	1111	VERY
378	MAH*	B	5	0	0	0	4	1	1	0	0	1111	HUNDRED
379	MAH*	N	1	F	0	0	4	1	1	0	0	0111	CENTURY
380	MC**	N	1	M	0	0	4	1	1	0	0	1111	TAX, DUE, FIXED CONTRIBUTION
381	MCB*	N	1	F	0	0	4	2	1	0	0	0111	PARTY (=SOCIAL GATHERING)
382	MLK*	N	1	M	0	0	4	1	1	0	0	1111	KING
383	MCR*	V	4	0	1	1	1	14	1	0	0	0111	HAND IN, TURN OVER, TRANSMIT
384	MCR*	V	4	0	7	1	1	14	1	0	0	0111	REPORT
385	MD**	N	1	F	0	0	4	5	1	0	0	1111	MEASURE
386	MDO*	N	1	M	0	0	4	1	1	0	0	1111	SCIENCE, KNOWLEDGE
387	MGB*	N	1	F	0	0	4	1	1	0	1	0001	TOWEL
388	MH**	R	5	0	0	0	5	1	1	0	0	1111	WHAT?
389	MHR*	A	1	0	0	0	4	2	1	0	0	1111	FAST, SWIFT
390	MHR*	D	3	0	0	0	4	1	1	0	0	1111	QUICKLY, FAST

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
391	MHR*	V	2	0	0	1	1	4	1	0	0	1111	HURRY, HASTEN
392	MHR*	V	3	0	0	1	1	4	1	0	0	1111	HURRY, HASTEN
393	M@H*	N	1	F	0	0	4	5	1	0	0	1111	BED
394	MKH*	N	1	F	0	0	4	1	1	0	0	1111	BLOW, STROKE, WOUND
395	MKN*	N	1	F	0	0	4	3	1	0	0	0001	MACHINE
396	MKR*	V	4	0	1	1	1	14	1	0	0	1111	SELL
397	MLA*	V	8	0	0	1	1	4	1	0	0	1111	FILL
398	MLAK	N	1	M	0	0	4	1	1	0	0	1111	ANGEL
399	MLN*	N	1	M	0	0	4	6	1	0	0	0001	DICTIONARY, LEXICON
400	ML&R	N	1	M	0	0	4	1	1	0	0	0001	WAITER
401	MLX*	N	1	M	0	0	4	1	1	0	0	1111	SALT
402	MO@*	A	1	0	0	0	4	1	1	0	0	1111	FEW
403	MO@*	D	4	0	0	0	4	1	1	0	0	1111	LITTLE, FEW
404	MPH*	N	1	F	0	0	4	1	1	0	0	0111	TABLECLOTH, MAP
405	MPNY	P	13	0	13	0	6	1	1	0	0	1111	IN VIEW OF, BECAUSE OF
406	M&A*	V	3	0	0	1	1	13	1	0	0	1111	FIND
407	M&B*	N	1	M	0	0	4	1	1	0	0	1111	SITUATION
408	M&X*	N	1	M	0	0	4	1	1	0	0	1111	FOREHEAD
409	MQL*	N	1	M	0	0	4	1	1	3	0	1111	STICK
410	MR**	A	1	0	0	0	4	1	1	0	0	1111	BITTER
411	MR**	N	1	M	0	0	4	1	1	0	0	0111	MR.
412	MRH*	N	1	M	0	0	4	4	1	0	0	0111	TEACHER
413	MRH*	N	1	F	0	0	4	4	1	0	0	0111	TEACHER
414	MRQ*	N	1	M	0	0	4	1	1	0	0	1111	SOUP
415	MSK*	V	3	0	0	1	1	7	1	0	0	0111	CONTINUE
416	MSK*	N	1	M	0	0	4	9	1	0	0	0001	CONTINUATION
417	MSL*	N	1	M	0	0	4	1	1	0	0	1111	EXAMPLE, ALLEGORY
418	MSL*	N	1	M	0	0	4	1	1	0	0	1111	EXAMPLE, ALLEGORY
419	MSL*	N	1	F	0	0	4	12	1	0	0	1111	GOVERNMENT
420	MSQ*	N	1	M	0	0	4	1	1	0	0	1111	ECONOMY, HOUSEHOLD, FARM

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
421	MSY*	N	1	M	0	0	4	1	1	7	0	1111	SILK
422	MT**	A	1	0	0	0	4	1	1	0	0	1111	DEAD
423	MT**	N	1	M	0	0	4	1	1	0	0	1111	DEAD
424	MTK*	N	1	F	0	0	4	1	1	0	1	0111	METAL
425	MTN*	N	1	F	0	0	4	1	1	0	0	1111	GIFT, PRESENT
426	MTN*	N	1	M	0	0	4	4	1	14	0	1111	HIP
427	MTG*	A	1	0	0	0	4	3	1	0	0	1111	SWEET
428	MTX*	N	1	M	0	0	4	1	1	7	0	0001	TENSION
429	MTY*	Q	2	0	0	0	7	1	1	0	0	1111	WHEN
430	MWN*	N	1	F	0	0	4	15	1	0	0	1111	IMAGE, PICTURE
431	MWT*	N	1	M	0	0	4	3	1	7	0	1111	DEATH
432	MWT*	V	2	0	0	1	1	13	1	0	0	1111	DIE
433	MXW*	N	1	M	0	0	4	1	1	0	0	0111	NEEDLE
434	MXW*	N	1	F	0	0	4	12	1	0	0	0001	HANDKERCHIEF
435	MXQ*	V	3	0	0	1	1	13	1	0	0	1111	WIPE OUT, RUB OUT
436	MXR*	D	1	0	0	0	4	1	1	0	0	1111	TOMORROW
437	MXR*	N	1	M	0	0	4	2	1	0	0	1111	PRICE
438	MY**	R	5	0	0	0	5	1	1	0	0	1111	WHO?
439	MYD*	D	1	0	0	0	4	15	1	0	0	1111	ALWAYS
440	MYD*	D	3	0	0	0	4	2	1	0	0	0111	IMMEDIATELY, AT ONCE
441	MYM*	N	1	M	0	0	4	1	1	14	0	1111	WATER
442	MYN*	N	1	M	0	0	4	1	1	0	0	1111	KIND, SORT, SPECIES, SEX, GENDER
443	MZL*	N	3	F	0	0	4	1	1	0	0	0011	LUCK
444	MZL*	N	1	M	0	0	4	1	1	3	0	0111	LUCK, PLANET, FATE
445	NBW*	V	5	0	2	1	1	7	1	0	0	1111	LOOK AT
446	NCH*	V	3	0	0	1	1	4	1	0	0	1111	TRY
447	NCO*	V	5	0	6	1	1	13	1	0	0	1111	TRAVEL
448	NCY*	N	1	M	0	0	4	23	1	3	0	0111	EXPERIENCE, TRY, EXPERIMENT
449	NPL*	V	2	0	0	1	1	14	1	0	0	1111	FALL, HAPPEN
450	NGD*	P	13	0	13	0	6	1	1	0	0	1111	AGAINST

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
451	NGD*	V	4	0	1	1	1	7	1	0	0	1111	TELL
452	NGN*	V	3	0	0	1	1	4	1	0	0	1111	PLAY (A MUSICAL INSTRUMENT)
453	NGN*	V	5	0	7	1	1	4	1	0	0	1111	PLAY (MUSICAL INSTRUMENT)
454	NGN*	V	5	0	2	1	1	4	1	0	0	1111	PLAY (MUSICAL INSTRUMENT)
455	NGO*	V	5	0	1	1	1	7	1	0	0	1111	ARRIVE REACH
456	NGO*	V	5	0	2	1	1	13	1	0	0	1111	TOUCH
457	NGR*	N	3	M	0	0	4	1	1	7	0	0011	PERSONAL NAME
458	NGR*	N	1	M	0	0	4	1	1	0	0	0111	CARPENTER
459	NGS*	V	5	0	6	1	1	3	1	0	0	1111	COME NEAR, APPROACH
460	NGS*	V	5	0	6	1	1	3	1	0	0	1111	COME NEAR, APPROACH
461	NHG*	N	1	M	0	0	4	1	1	0	0	0001	DRIVER
462	NHG*	N	1	M	0	0	4	12	1	0	0	0111	CUSTOM
463	NHL*	N	1	M	0	0	4	12	1	0	0	0011	DIRECTOR, MANAGER
464	NHR*	N	1	M	0	0	4	1	1	3	0	1111	RIVER
465	N@O*	V	3	0	0	1	1	13	1	0	0	1111	TO PLANT
466	NKD*	N	1	M	0	0	4	1	1	0	0	1111	GRANDCHILD
467	NKH*	V	3	0	0	1	1	7	1	0	0	1111	STRIKE
468	NKL*	N	1	M	0	0	4	1	1	0	0	1111	CREEK
469	NKNC	N	1	M	0	0	4	1	1	14	0	1111	TROUSERS
470	NKR*	V	3	0	0	1	1	7	1	0	0	1111	BE ACQUAINTED WITH, RECOGNIZE
471	NMK*	A	1	0	0	0	4	3	1	0	0	0111	LOW
472	NML*	N	1	M	0	0	4	1	1	0	0	0111	HARBOR, PORT
473	NOL*	N	1	F	0	0	4	1	1	12	0	1111	SHOE
474	NOL*	N	1	M	0	0	4	2	1	0	0	1111	JACKET, COAT
475	NOM*	A	1	0	0	0	4	2	1	0	0	1111	PLEASANT
476	NOM*	N	3	M	0	0	4	2	1	0	0	0011	PERSONAL NAME
477	NOR*	N	1	M	0	0	4	1	1	0	0	1111	BOY, YOUNGSTER
478	NOR*	N	1	F	0	0	4	1	1	0	0	1111	GIRL
479	NP@*	N	1	M	0	0	4	1	1	7	0	0111	KEROSENE, OIL
480	N&L*	V	3	0	0	1	1	7	1	0	0	1111	SAVE (FROM A DANGER)

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
481	N&X*	V	3	0	0	1	1	4	1	0	0	1111	OVERCOME
482	NQD*	N	1	F	0	0	4	3	1	0	0	1111	POINT, PERIOD
483	NQY*	A	1	0	0	0	4	1	1	0	0	1111	CLEAN
484	NR**	N	1	M	0	0	4	1	1	3	0	1111	CANDLE
485	NRA*	A	1	0	0	0	4	4	1	0	0	1111	TERRIBLE
486	NSA*	N	1	M	0	0	4	4	1	0	0	1111	THEME, TOPIC
487	NSA*	N	1	M	0	0	4	2	1	0	0	1111	PRESIDENT
488	NSA*	N	3	M	0	0	4	1	1	0	0	0011	PERSONAL NAME
489	NSG*	V	3	0	0	1	1	7	1	0	0	1111	GET (HOLD OF) ACHIEVE, ORTAIN
490	NSQ*	N	1	M	0	0	4	1	1	7	0	1111	WEAPON, ARMS
491	NSQ*	N	1	F	0	0	4	2	1	0	0	1111	KISS
492	NSY*	A	1	0	0	0	4	3	1	0	0	0111	MARRIED
493	NTN*	V	4	0	1	1	1	12	1	0	0	1111	GIVE
494	NTN*	N	3	M	0	0	4	1	1	0	0	1111	PERSONAL NAME
495	NTN*	V	4	0	1	1	1	12	1	0	0	1111	GIVE
496	NTN*	V	6	0	0	1	1	12	1	0	0	1111	GIVE
497	NTN*	V	4	0	1	1	1	12	1	0	0	1111	GIVE
498	NWO*	N	1	F	0	0	4	15	1	0	0	0001	MOVEMENT, VOWEL
499	NWR*	N	1	F	0	0	4	12	1	0	0	1111	LAMP
500	NWR*	N	1	M	0	0	4	17	1	0	0	1111	STOVE
501	NWX*	A	1	0	0	0	4	1	1	0	0	1111	COMFORTABLE, MODERATE
502	NWX*	N	1	F	0	0	4	12	1	0	0	1111	REST
503	NWX*	N	3	M	0	0	4	1	1	0	0	1111	PERSONAL NAME
504	NWX*	V	2	0	0	1	1	14	1	0	0	1111	REST
505	NXNW	R	2	M	0	0	5	7	1	0	0	1111	WE
506	NX&*	A	1	0	0	0	4	3	1	0	0	1111	NECESSARY, REQUIRED
507	NXNW	R	2	F	0	0	5	7	1	0	0	1111	WE
508	NXR*	N	1	M	0	0	4	2	1	14	0	0111	NOSTRIL
509	NXS*	N	1	M	0	0	4	1	1	0	0	1111	SNAKE
510	NYR*	N	1	M	0	0	4	2	1	3	0	0111	PAPER, DOCUMENT

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
511	OBD*	N	1	F	0	0	4	3	1	0	0	1111	WORK, JOB
512	OBD*	V	2	0	0	1	1	14	1	0	0	1111	WORK, SERVE
513	OBD*	V	3	0	0	1	1	14	1	0	0	1111	WORK, SERVE
514	OBH*	A	1	0	0	0	4	1	1	0	0	0111	THICK
515	OBR*	N	1	F	0	0	4	19	1	7	1	0111	HEBREW LANGUAGE
516	OBR*	V	3	0	0	1	1	14	1	0	0	1111	EXCEED, PASS
517	OBR*	V	5	0	0	1	1	14	1	0	0	1111	PASS BY, EXCEED, PASS
518	OCQ*	A	1	0	0	0	4	3	1	0	0	0111	BUSY
519	OCQ*	V	2	0	0	1	1	6	1	0	0	0111	DEAL WITH
520	OD**	C	4	0	0	0	6	1	1	0	0	1111	TILL, UNTIL, UP TO
521	ODP*	N	1	M	0	0	4	4	1	0	0	1111	SURPLUS, CHANGE
522	ODR*	N	1	M	0	0	4	12	1	0	0	0111	HOE
523	OGL*	A	1	0	0	0	4	3	1	0	0	1111	ROUND
524	OGL*	N	1	F	0	0	4	1	1	0	0	0111	CART
525	O@**	N	1	M	0	0	4	1	1	0	0	1111	PEN
526	O@P*	N	1	F	0	0	4	12	1	0	0	0001	ENVELOPE
527	OKSW	D	1	0	0	0	4	42	1	0	0	0111	NOW
528	OL**	P	7	0	7	0	6	1	1	0	0	1111	ON
529	OM**	N	1	M	0	0	4	1	1	0	0	1111	NATION, PEOPLE
530	OM**	P	8	0	8	0	6	1	1	0	0	1111	WITH
531	OMD*	N	1	M	0	0	4	3	1	0	0	1111	PAGE, STAND, PILLAR
532	OMD*	V	2	0	0	1	1	14	1	0	0	1111	STAND, CEASE TO MOVE, STOP
533	OMQ*	N	1	M	0	0	4	1	1	0	0	1111	VALLEY
534	OMQ*	A	1	0	0	0	4	3	1	0	0	1111	DEEP, PROFOUND
535	OMQ*	N	3	M	0	0	4	1	1	0	0	0001	PERSONAL NAME
536	ONB*	N	1	M	0	0	4	1	1	0	0	1111	GRAPE
537	ONG*	N	1	M	0	0	4	17	1	0	0	1111	PLEASURE
538	ONG*	N	1	M	0	0	4	17	1	3	0	1111	PLEASURE
539	ONH*	V	5	0	7	1	1	14	1	0	0	1111	ANSWER, REPLY
540	ONH*	V	7	0	0	1	1	14	1	0	0	1111	ANSWER, REPLY

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
541	ONN*	N	1	M	0	0	4	1	1	0	0	1111	CLOUD
542	ONN*	N	3	M	0	0	4	1	1	7	0	0111	PERSONAL NAME
543	ONY*	A	1	0	0	0	4	1	1	0	0	1111	POOR
544	ONYN	N	1	M	0	0	4	1	1	0	0	1111	MATTER, AFFAIR
545	ONYN	V	2	0	0	1	1	6	1	0	0	0001	BE INTERESTED
546	OPR*	N	1	M	0	0	4	23	1	3	0	0001	PENCIL
547	O&**	N	1	M	0	0	4	1	1	0	0	1111	TREE, TIMBER, WOOD
548	O&B*	A	1	0	0	0	4	3	1	0	0	1111	SAD
549	O&H*	N	1	F	0	0	4	1	1	0	0	1111	ADVICE
550	O&L*	A	1	0	0	0	4	1	1	0	0	1111	LAZY
551	O&M*	N	1	M	0	0	4	1	1	0	0	1111	OBJECT
552	O&M*	N	1	F	0	0	4	1	1	2	0	1111	BONE
553	ORB*	N	1	M	0	0	4	12	1	7	0	1111	WEST
554	ORB*	N	1	M	0	0	4	1	1	0	0	1111	EVENING
555	ORK*	V	3	0	0	1	1	14	1	0	0	1111	ARRANGE, STAGE, SET
556	OSH*	N	1	M	0	0	4	12	1	0	0	1111	ACT
557	OSH*	V	4	0	1	1	1	14	1	0	0	1111	DO, MAKE
558	OSN*	N	1	M	0	0	4	1	1	7	0	1111	SMOKE
559	OSN*	V	3	0	0	1	1	4	1	0	0	1111	SMOKE
560	OSR*	A	1	0	0	0	4	2	1	0	0	1111	RICH
561	OSR*	B	4	F	0	0	4	1	1	0	0	1111	TEN
562	OSRY	A	1	0	0	0	4	2	1	0	0	1111	TENTH
563	OTD*	N	1	M	0	0	4	2	1	7	0	0111	FUTURE
564	OTN*	N	1	M	0	0	4	6	1	0	0	0001	NEWSPAPER, JOURNAL
565	OWD*	D	4	0	0	0	4	1	1	0	0	1111	STILL, YET, MORE
566	OWD*	N	1	F	0	0	4	15	1	0	0	1111	CERTIFICATE, DOCUMENT
567	OYN*	N	1	F	0	0	4	1	1	12	0	1111	EYE
568	OYP*	A	1	0	0	0	4	2	1	0	0	1111	TIRED
569	OYR*	N	1	F	0	0	4	35	1	6	0	1111	CITY
570	OZB*	V	3	0	0	1	1	14	1	0	0	1111	LEAVE, ABANDON, DESERT

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
571	OZR*	N	1	F	0	0	4	1	1	0	0	1111	HELP, AID
572	OZR*	V	5	0	1	1	1	14	1	0	0	1111	HELP
573	PCD*	V	3	0	0	1	1	7	1	0	0	0111	LOSE
574	PCQ*	V	3	0	0	1	1	7	1	0	0	1111	STOP, CEASE, INTERRUPT
575	PCX*	N	3	M	0	0	4	1	1	7	0	0111	PASSOVER
576	POL*	N	1	M	0	0	4	4	1	0	0	0111	LABORER, WORKER
577	PGO*	V	5	0	2	1	1	13	1	0	0	1111	HIT, IMPAIR
578	PGS*	V	3	0	0	1	1	14	1	0	0	1111	MEET
579	PH**	D	2	0	0	0	4	1	1	0	0	1111	HERE
580	P@S*	N	1	M	0	0	4	2	1	0	0	1111	HAMMER
581	PLA*	A	1	0	0	0	4	18	1	0	0	1111	WONDERFUL
582	PLA*	V	2	0	0	1	1	6	1	0	0	0111	BE SURPRISED, BE ASTONISHED, WONDER
583	PLL*	V	2	0	0	1	1	6	1	0	0	1111	PRAY
584	PNH*	N	1	F	0	0	4	5	1	0	0	1111	CORNER
585	PNH*	V	5	0	6	1	1	14	1	0	0	1111	TURN, ADDRESS, APPLY TO
586	PNQC	N	1	M	0	0	4	1	1	0	0	0111	NOTEBOOK
587	PNY*	A	1	0	0	0	4	3	1	0	0	0111	UNOCCUPIED, EMPTY
588	PNYM	N	1	M	0	0	4	1	1	9	0	1111	FACE, FRONT SIDE, SURFACE
589	PNYM	N	1	M	0	0	4	1	1	7	0	0001	INSIDE, INTERNAL AFFAIRS
590	PNYM	N	1	F	0	0	4	1	1	9	0	1111	FACE, FRONT SIDE, SURFACE
591	POL*	V	3	0	0	1	1	13	1	0	0	1111	ACT
592	POM*	D	1	0	0	0	4	1	1	0	0	1111	ONCE
593	POM*	N	1	M	0	0	4	23	1	0	0	1111	BELL
594	POM*	N	1	F	0	0	4	1	1	0	0	1111	TIME
595	P&&*	N	1	F	0	0	4	1	1	0	0	0001	BOMB
596	P&O*	N	1	M	0	0	4	1	1	0	0	1111	WOUND, INJURY
597	PQD*	N	1	F	0	0	4	3	1	0	0	1111	COMMAND, ORDER
598	PQD*	N	1	M	0	0	4	16	1	0	0	0111	TASK, FUNCTION
599	PQD*	N	1	M	0	0	4	2	1	0	0	1111	CLERK, OFFICIAL
600	PR**	N	1	F	0	0	4	1	1	0	0	1111	COW

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
601	PRWY	A	1	0	0	0	4	1	1	0	0	0001	INDIVIDUAL, PERSONAL, PRIVATE
602	PRO*	V	5	0	1	1	1	7	1	0	0	1111	DISTURB
603	PRQ*	N	1	M	0	0	4	1	1	0	0	0111	CHAPTER
604	PRX*	N	1	M	0	0	4	1	1	0	0	1111	FLOWER
605	PRY*	N	1	M	0	0	4	27	1	3	0	1111	FRUIT
606	PSW*	A	1	0	0	0	4	3	1	0	0	1111	SIMPLE
607	PTAM	D	3	0	0	0	4	41	1	0	0	1111	SUDDENLY, ALL OF A SUDDEN
608	PTQ*	N	1	M	0	0	4	1	1	0	0	0111	LITTLE NOT, SLIP (OF PAPER)
609	PTX*	N	1	M	0	0	4	12	1	3	0	1111	KEY
610	PTX*	V	3	0	0	1	1	13	1	0	0	1111	OPEN
611	PTX*	V	5	0	2	1	1	13	1	0	0	1111	BEGIN
612	PWX*	N	1	M	0	0	4	15	1	0	0	1111	APPLE
613	PX**	N	1	M	0	0	4	1	1	0	0	1111	SHEET METAL, CAN
614	PXD*	N	1	M	0	0	4	1	1	0	0	1111	FEAR
615	PXD*	V	2	0	0	1	1	13	1	0	0	1111	SHRINK AWAY, BE AFRAID
616	PXD*	V	5	0	4	1	1	13	1	0	0	1111	BE AFRAID OF
617	PXT*	D	4	0	0	0	4	3	1	0	0	0111	LESS
618	PYYH	N	1	M	0	0	4	28	1	3	0	1111	MOUTH
619	&BA*	N	1	M	0	0	4	1	1	3	0	1111	ARMY
620	&BO*	N	1	M	0	0	4	1	1	0	0	1111	COLOR, PAINT, DYE
621	&BO*	N	1	F	0	0	4	7	1	2	0	1111	FINGER, TOE
622	&D**	N	1	M	0	0	4	1	1	0	0	1111	SIDE
623	&D**	N	1	M	0	0	4	34	1	0	0	0111	SIDE
624	&DQ*	A	1	0	0	0	4	2	1	0	0	1111	RIGHTEOUS, PIOUS
625	&DQ*	V	2	0	0	1	1	12	1	0	0	1111	BE RIGHT, BE JUST
626	&HB*	A	1	0	0	0	4	3	1	0	0	1111	YELLOW
627	&L&L	V	5	0	1	1	1	4	1	0	0	0111	RING (SOMEONE) (ON THE PHONE)
628	&L&L	V	5	0	2	1	1	4	1	0	0	0111	RING
629	&LX*	N	1	F	0	0	4	1	1	0	1	0111	PLATE, DISH
630	&LX*	V	2	0	0	1	1	7	1	0	0	1111	SUCCEED, PROSPER

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
631	&MA*	A	1	0	0	0	4	1	1	0	0	1111	THIRSTY
632	&MR*	N	1	M	0	0	4	1	1	7	0	1111	WOOL
633	&MX*	N	3	M	0	0	4	1	1	7	0	0001	PERSONAL NAME
634	&MX*	N	1	M	0	0	4	1	1	0	0	1111	PLANT
635	&MX*	N	2	M	0	0	4	1	1	0	0	0001	PLACE NAME
636	&NR*	N	1	M	0	0	4	6	1	3	0	1111	HOSE, PIPE
637	&OD*	N	1	M	0	0	4	1	1	0	0	1111	STEP
638	&OG*	V	2	0	0	1	1	13	1	0	0	1111	CRY OUT, SHOUT, CALL ALOUD
639	&OR*	A	1	0	0	0	4	2	1	0	0	1111	YOUNG
640	&PN*	N	1	M	0	0	4	3	1	7	0	1111	NORTH
641	&PR*	N	1	F	0	0	4	6	1	6	0	1111	BIRD
642	&R**	A	1	0	0	0	4	1	1	0	0	1111	NARROW
643	&R**	N	1	F	0	0	4	1	1	0	0	1111	TROUBLE, INCONVENIENCE, MISFORTUNE
644	&R**	N	1	F	0	0	4	4	1	0	0	1111	FASHION, WAY, FORM
645	&RD*	A	1	0	0	0	4	3	1	0	0	0111	HOARSE
646	&RK*	A	1	0	0	0	4	2	1	0	0	0111	NEEDING, MUST, NECESSARY
647	&RK*	N	1	M	0	0	4	4	1	0	0	0111	NEED, NECESSITY
648	&RP*	N	1	M	0	0	4	2	1	0	0	0001	CABIN, WOODEN HUT
649	&WAR	N	1	M	0	0	4	1	1	0	0	1111	NECK
650	&WH*	N	1	F	0	0	4	12	1	0	0	1111	COMMANDMENT, MORAL COMMAND, GOOD DEED
651	&WHR	N	1	M	0	0	4	1	1	11	0	1111	NOON
652	&XQ*	N	1	M	0	0	4	3	1	7	0	1111	LAUGHTER, HUMOR, UNSERIOUS BUSINESS
653	&XQ*	V	2	0	0	1	1	13	1	0	0	1111	LAUGH
654	&YYR	V	3	0	0	1	1	4	1	0	0	0111	DRAW
655	QDS*	A	1	0	0	0	4	3	1	0	0	1111	HOLY, SAINT, SACRED
656	QNH*	V	3	0	0	1	1	14	1	0	0	1111	BUY, ACQUIRE
657	QRH*	V	2	0	0	1	1	14	1	0	0	1111	OCCUR, HAPPEN
658	QBL*	V	4	0	0	1	1	4	1	0	0	1111	ACCEPT, RECEIVE, GET
659	QBL*	V	0	0	0	2	1	6	1	0	0	0111	BE RECEIVED
660	QBO*	V	3	0	0	1	1	13	1	0	0	0111	FIX, FASTEN, DETERMINE, SET

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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.  ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD          ENGLISH EQUIV.


661  QDM*  V  2  0  0  1  1  6  1  0  0   1111           PROGRESS, GET ON
662  QDM*  A  1  0  0  0  4 12  1  0  0   0111           EARLY, PREMATURE
663  QDX*  N  1  M  0  0  4  7  1  0  0   0001           PISTOL
664  QHL*  N  1  M  0  0  4  1  1  7  0   1111           PUBLIC, AUDIENCE
665  QWN*  A  1  0  0  0  4  1  1  0  0   1111           SMALL
666  GL**  A  1  0  0  0  4  1  1  0  0   1111           LIGHT, EASY, SWIFT
667  QLGL  V  3  0  0  1  1  4  1  0  0   0111           SPOIL
668  QLX*  N  1  F  0  0  4 12  1  0  1   0001           SHOWER, SHOWER ROOM
669  QMGM  N  1  M  0  0  4 41  1  0  0   0111           TEAKETTLE
670  QMX*  N  1  M  0  0  4  1  1  7  0   1111           FLOUR
671  QPC*  N  1  F  0  0  4  4  1  0  0   0111           BOX CASE
672  QPH*  N  1  M  0  0  4  1  1  7  0   0001           COFFEE
673  QPα*  V  2  0  0  1  1 14  1  0  0   0111           JUMP, LEAP
674  Q&R*  A  1  0  0  0  4  1  1  0  0   1111           SHORT, BRIEF
675  Q&T*  D  4  0  0  0  4  1  1  0  0   0011           A LITTLE, A BIT
676  QR**  A  1  0  0  0  4  1  1  0  0   1111           COLD
677  QRA*  V  3  0  0  1  1 13  1  0  0   1111           READ
678  QRA*  V  5  0  1  1  1 13  1  0  0   1111           CALL, CALL UPON
679  QRB*  A  1  0  0  0  4  3  1  0  0   1111           NEAR, CLOSE, RELATED, RELATIVE
680  QRB*  N  1  M  0  0  4  1  1  3  0   1111           BATTLE
681  QRH*  N  1  M  0  0  4 12  1  0  0   1111           OCCURRENCE, INCIDENT, CASE
682  QRH*  N  1  F  0  0  4 15  1  0  0   0111           CEILING
683  QRX*  N  1  M  0  0  4  1  1  7  0   1111           ICE
684  QS**  N  1  M  0  0  4  1  1  0  0   1111           STRAW
685  QSB*  V  5  0  1  1  1  7  1  0  0   1111           LISTEN TO
686  QSB*  V  2  0  0  1  1  7  1  0  0   1111           LISTEN TO
687  GSH*  A  1  0  0  0  4  1  1  0  0   1111           HARD, DIFFICULT, SEVERE
688  GSR*  N  1  M  0  0  4  1  1  0  0   1111           LIEN, KNOT, ATTACHMENT, MUTINY
689  QSR*  V  3  0  0  1  1 14  1  0  0   1111           TIE, FORM A LIEN
690  QSY*  N  1  M  0  0  4  4  1  0  0   1111           DIFFICULTY
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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
691	QW**	N	1	M	0	0	4	1	1	0	0	1111	LINE, ROUTE
692	QWDM	D	1	0	0	0	4	12	1	0	0	0111	EARLY
693	QWH*	N	1	F	0	0	4	15	1	0	0	1111	HOPE
694	QWH*	V	5	0	1	1	1	4	1	0	0	1111	HOPE FOR
695	QWL*	N	1	M	0	0	4	1	1	3	0	1111	VOICE
696	QWL*	N	3	M	0	0	4	1	1	0	0	0001	PERSONAL NAME
697	QWM*	N	1	F	0	0	4	1	1	0	0	0001	STORY (OF BUILDING)
698	QWM*	N	1	M	0	0	4	12	1	3	0	1111	PLACE, SPACE
699	QY&*	N	1	M	0	0	4	1	1	0	0	1111	SUMMER
700	QYR*	N	1	M	0	0	4	1	1	3	0	1111	WALL
701	RAH*	N	1	F	0	0	4	12	1	0	0	1111	MIRROR
702	RAH*	N	1	F	0	0	4	12	1	0	0	1111	MIRROR
703	RAH*	V	3	0	0	1	1	14	1	0	0	1111	SEE
704	RAH*	V	4	0	1	1	1	7	1	0	0	1111	SHOW (SOMEONE) (SOMETHING)
705	RAS*	A	1	0	0	0	4	23	1	0	0	1111	FIRST
706	RAS*	N	1	M	0	0	4	35	1	0	0	1111	HEAD, CHIEF, TOP
707	RB**	A	1	0	0	0	4	1	1	0	0	1111	MUCH, MANY
708	RB**	N	1	M	0	0	4	4	1	0	0	1111	MAJORITY, MOST
709	RB**	N	1	F	0	0	4	5	1	0	0	0011	JAM
710	RBH*	N	1	M	0	0	4	4	1	0	0	0111	RIFLE
711	RBH*	N	1	F	0	0	4	17	1	0	1	1111	CULTURE, CIVILIZATION
712	RBO*	N	1	M	0	0	4	1	1	0	0	1111	QUARTER
713	RBOY	A	1	0	0	0	4	2	1	0	0	1111	FOURTH
714	RDM*	V	2	0	0	1	1	3	1	0	0	1111	FALL ASLEEP
715	RGO*	N	1	M	0	0	4	1	1	0	0	1111	MOMENT, MINUTE
716	RGL*	A	1	0	0	0	4	2	1	0	0	0111	REGULAR, HABITUAL
717	RGL*	N	1	F	0	0	4	1	1	12	0	1111	FOOT, LEG
718	RGL*	V	2	0	1	1	1	6	1	0	0	0111	GET USED (TO)
719	RGZ*	V	3	0	0	1	1	7	1	0	0	1111	MAKE ANGRY, ENRAGE, ANNOY
720	RHW*	N	1	M	0	0	4	2	1	0	0	1111	PIECE OF FURNITURE

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
721	R@B*	A	1	0	0	0	4	3	1	0	0	1111	WET
722	RK**	A	1	0	0	0	4	1	1	0	0	1111	SOFT, TENDER
723	RKB*	N	1	F	0	0	4	1	1	0	1	0001	TRAIN
724	RKB*	V	5	0	7	1	1	13	1	0	0	1111	RIDE
725	RKZ*	N	1	M	0	0	4	12	1	0	0	0001	CENTER
726	RO**	A	1	0	0	0	4	1	1	0	0	1111	BAD, EVIL
727	ROB*	A	1	0	0	0	4	1	1	0	0	1111	HUNGRY
728	ROS*	N	1	M	0	0	4	1	1	0	0	1111	NOISE
729	RPA*	N	1	M	0	0	4	4	1	0	0	1111	PHYSICIAN
730	RPA*	N	3	M	0	0	4	4	1	7	0	0011	PERSONAL NAME
731	R&H*	V	3	0	0	1	1	14	1	0	0	1111	WANT, WISH, DESIRE, LIKE
732	R&H*	V	5	0	2	1	1	14	1	0	0	1111	WANT, WISH, DESIRE, LIKE
733	R&NY	A	1	0	0	0	4	2	1	0	0	0011	SERIOUS
734	R&P*	N	1	F	0	0	4	1	1	0	0	1111	FLOOR
735	R&W*	N	1	M	0	0	4	22	1	3	0	1111	WILL, INTENT, WISH
736	RQ**	D	4	0	0	0	4	1	1	0	0	1111	ONLY, MERELY
737	RQD*	V	3	0	0	1	1	14	1	0	0	1111	DANCE
738	RQD*	V	2	0	0	1	1	14	1	0	0	1111	DANCE
739	RSH*	N	1	F	0	0	4	3	1	0	1	1111	PERMISSION
740	RSH*	V	4	0	1	1	1	7	1	0	0	0111	PERMIT, GIVE PERMISSION (TO)
741	RSM*	N	1	F	0	0	4	2	1	0	0	0001	LIST
742	RSM*	N	1	M	0	0	4	4	1	0	0	1111	IMPRESSION
743	RSM*	V	3	0	0	1	1	14	1	0	0	1111	WRITE DOWN, NOTE, REGISTER
744	RTO*	V	5	0	4	1	1	3	1	0	0	1111	BE STARTLED, RECOIL
745	RW&*	V	5	0	6	1	1	14	1	0	0	1111	RUN
746	RW&*	V	5	0	12	1	1	14	1	0	0	1111	RUN
747	RWQ*	A	1	0	0	0	4	3	1	0	0	0111	UNMARRIED
748	RWX*	N	1	M	0	0	4	1	1	3	0	1111	WIND, SPIRIT, GHOST, DISPOSITION
749	RWX*	N	1	F	0	0	4	1	1	2	0	1111	WIND, SPIRIT, GHOST, DISPOSITION
750	RXB*	A	1	0	0	0	4	1	1	0	0	1111	BROAD, WIDE

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
751	RXB*	N	1	M	0	0	4	3	1	3	0	1111	STREET
752	RXB*	N	1	M	0	0	4	4	1	7	0	1111	WIDTH
753	RX&*	V	2	0	0	3	1	6	1	0	0	1111	WASH, TAKE A BATH
754	RX&*	V	3	0	0	1	1	13	1	0	0	1111	WASH
755	RXQ*	N	1	M	0	0	4	12	1	0	0	1111	DISTANCE
756	RXQ*	A	1	0	0	0	4	3	1	0	0	1111	FAR AWAY, REMOTE
757	RYX*	N	1	M	0	0	4	1	1	3	0	1111	SMELL, SCENT
758	SAL*	N	1	F	0	0	4	1	1	0	0	1111	QUESTION
759	SAL*	V	4	0	5	1	1	13	1	0	0	1111	BORROW
760	SAL*	V	8	0	0	1	1	13	1	0	0	1111	ASK
761	SAL*	V	7	0	0	1	1	13	1	0	0	1111	ASK
762	SAR*	V	4	0	1	1	1	7	1	0	0	1111	LEAVE
763	SBO*	N	1	M	0	0	4	3	1	3	0	1111	WEEK
764	SBR*	N	1	M	0	0	4	12	1	0	0	1111	CRISIS, BREAKDOWN
765	SBT*	N	1	F	0	0	4	1	1	0	1	1111	SABBATH, SATURDAY
766	SDL*	V	2	0	0	1	1	6	1	0	0	0111	ENDEAVOR, DO ONE'S BEST
767	SDH*	N	1	M	0	0	4	1	1	3	0	1111	FIELD
768	SDH*	N	3	M	0	0	4	1	1	0	0	0001	PERSONAL NAME
769	SDH*	N	1	F	0	0	4	1	1	0	0	1111	FIELD
770	SGH*	N	1	F	0	0	4	2	1	0	0	1111	MISTAKE, ERROR
771	S@R*	N	1	M	0	0	4	4	1	0	0	1111	POLICEMAN
772	S@R*	N	1	F	0	0	4	12	1	0	0	0001	POLICE
773	SKB*	V	5	0	7	1	1	13	1	0	0	1111	LIE
774	SKB*	V	5	0	8	1	1	13	1	0	0	1111	TO HAVE SEXUAL INTERCOURSE
775	SKN*	N	1	M	0	0	4	1	1	0	0	1111	NEIGHBOR
776	SKL*	N	1	M	0	0	4	1	1	0	0	1111	INTELLECT, MIND
777	SKLY	N	1	F	0	0	4	8	1	0	1	0001	GRAPEFRUIT
778	SKN*	A	1	0	0	0	4	1	1	0	0	1111	NEIGHBORING
779	SKN*	N	1	F	0	0	4	3	1	0	0	0011	RESIDENTIAL QUARTER
780	SKX*	V	3	0	0	1	1	13	1	0	0	1111	FORGET

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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.  ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD          ENGLISH EQUIV.


781  SL**  U  1  0  0  0  7  1  1  0  0   1111           OF, BELONGING TO
782  SLM*  N  1  M  0  0  4  3  1  0  0   1111           HELLO, GOOD BYE, PEACE
783  SLG*  N  1  M  0  0  4  1  1  0  0   1111           SNOW
784  SLM*  N  1  M  0  0  4 12  1  0  0   0001           CREST POSITION
785  SLM*  A  1  0  0  0  4  1  1  0  0   1111           COMPLETE, ENTIRE
786  SLM*  N  1  M  0  0  4 17  1  0  0   0111           PAYMENT
787  SLM*  N  3  M  0  0  4  3  1  0  0   0011           PERSONAL NAME
788  SLM*  V  4  0  1  1  1  4  1  0  0   1111           PAY
789  SLM*  N  1  M  0  0  4  3  1  3  0   1111           HELLO, GOOD BYE, PEACE
790  SLS*  B  3  F  0  0  4  3  1  0  0   1111           THREE
791  SLS*  N  1  M  0  0  4  2  1  0  0   0111           THIRD (PART)
792  SLSY  A  1  0  0  0  4  2  1  0  0   1111           THIRD
793  SLX*  N  1  M  0  0  4 22  1  3  0   1111           TABLE
794  SLX*  V  4  0  1  1  1 13  1  0  0   1111           SEND
795  SLX*  N  1  F  0  0  4 12  1  0  1   1111           DELEGATION
796  SM**  D  2  0  0  0  4  1  1  0  0   1111           THERE
797  SM**  N  1  M  0  0  4  1  1 11  0   1111           HEAVEN, SKY
798  SM**  N  1  M  0  0  4  1  1  3  0   1111           NAME
799  SMAL  N  1  M  0  0  4  1  1  7  0   1111           LEFT SIDE
800  SML*  N  1  F  0  0  4  1  1  0  0   1111           DRESS
801  SMN*  A  1  0  0  0  4  1  1  0  0   1111           FAT
802  SMN*  B  3  M  0  0  4  3  1  0  0   1111           EIGHT
803  SMN*  N  1  M  0  0  4  1  1  0  0   1111           OIL, OLIVE OIL
804  SMN*  B  3  F  0  0  4  3  1  0  0   1111           EIGHT
805  SMNY  A  1  0  0  0  4  2  1  0  0   1111           EIGHTH
806  SMO*  V  3  0  0  1  1 13  1  0  0   1111           HEAR
807  SMR*  N  1  M  0  0  4 12  1  3  0   1111           GUARD'S WATCH, POST
808  SMR*  V  3  0  0  1  1 12  1  0  0   1111           WATCH, OBSERVE
809  SMR*  N  1  M  0  0  4 12  1  0  0   1111           GUARD'S WATCH, POST
810  SMR*  V  5  0  7  1  1 12  1  0  0   1111           GUARD, KEEP
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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
811	SMS*	N	1	M	0	0	4	1	1	3	0	1111	SUN
812	SMS*	N	1	F	0	0	4	1	1	0	0	1111	SUN
813	SMS*	V	5	0	2	1	1	6	1	0	0	1111	MAKE USE OF, USE
814	SMX*	A	1	0	0	0	4	1	1	0	0	1111	HAPPY
815	SMX*	N	3	F	0	0	4	1	1	0	0	1111	PERSONAL NAME
816	SMX*	N	1	F	0	0	4	1	1	0	0	1111	JOY, FESTIVE OCCASION
817	SMX*	V	2	0	0	1	1	13	1	0	0	1111	TO BE GLAD, REJOICE
818	SN**	B	3	F	0	0	4	30	1	0	0	1111	TWO
819	SN**	N	1	F	0	0	4	1	1	12	0	1111	TOOTH
820	SN**	N	1	F	0	0	4	1	1	0	0	1111	SLEEP, SLUMBER
821	SN**	N	1	F	0	0	4	1	1	0	0	1111	YEAR
822	SN**	A	1	0	0	0	4	2	1	0	0	1111	SECOND
823	SN**	B	2	M	0	0	4	30	1	0	0	1111	TWO
824	SNA*	V	3	0	0	1	1	13	1	0	0	1111	HATE
825	SOH*	N	1	F	0	0	4	1	1	0	0	1111	HOUR
826	SON*	N	1	M	0	0	4	3	1	0	0	0111	CLOCK, WATCH
827	SOR*	N	1	M	0	0	4	1	1	7	0	1111	HAIR
828	SOR*	N	1	M	0	0	4	6	1	0	0	0111	LESSON
829	SPH*	N	1	F	0	0	4	1	1	0	0	1111	LANGUAGE
830	SPH*	N	1	F	0	0	4	1	1	14	0	1111	LIP
831	SP@*	N	1	M	0	0	4	12	1	0	0	1111	SENTENCE, TRIAL, CASE
832	SP@*	N	1	M	0	0	4	4	1	0	0	1111	JUDGE
833	SPX*	N	1	F	0	0	4	12	1	0	0	1111	FAMILY
834	SQL*	V	3	0	0	1	1	14	1	0	0	1111	WEIGH
835	SQ@*	A	1	0	0	0	4	1	1	0	0	1111	QUIET, CALM
836	SG@*	N	1	M	0	0	4	1	1	7	0	1111	QUIET
837	SQL*	N	1	M	0	0	4	12	1	3	0	1111	WEIGHT, SCALE
838	SQL*	N	1	M	0	0	4	12	1	0	0	1111	WEIGHT, SCALE
839	SQR*	N	1	M	0	0	4	1	1	0	0	1111	LIE
840	SGR*	V	3	0	0	1	1	4	1	0	0	1111	LIE

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
841	SR**	N	1	M	0	0	4	1	1	0	0	0001	MINISTER (OF STATE)
842	SRD*	N	1	M	0	0	4	12	1	0	0	0001	OFFICE, BUREAU
843	SRH*	N	1	F	0	0	4	12	1	0	0	1111	POSITION
844	SRP*	A	1	0	0	0	4	3	1	0	0	1111	BURNT
845	SRS*	N	1	M	0	0	4	4	1	0	0	1111	ROOT
846	SRT*	N	1	M	0	0	4	6	1	0	0	1111	SERVICE
847	SS**	B	3	F	0	0	4	1	1	0	0	1111	SIX
848	SSY*	A	1	0	0	0	4	5	1	0	0	1111	SIXTH
849	STH*	V	3	0	0	1	1	14	1	0	0	1111	DRINK
850	STP*	V	2	0	0	1	1	6	1	0	0	0111	PARTICIPATE IN
851	SWB*	D	3	0	0	0	4	1	1	0	0	0111	AGAIN
852	SWB*	V	4	0	1	1	1	7	1	0	0	1111	ANSWER, GIVE BACK, BRING BACK
853	SWB*	N	1	F	0	0	4	15	1	0	0	1111	ANSWER
854	SWB*	V	5	0	6	1	1	14	1	0	0	1111	RETURN
855	SWH*	A	1	0	0	0	4	3	1	0	0	0111	EQUAL, WORTH
856	SWM*	N	1	0	0	0	4	4	1	0	0	0111	NO(ONE)
857	SWQ*	N	1	M	0	0	4	1	1	0	0	1111	MARKET, BAZAAR
858	SWR*	N	1	F	0	0	4	1	1	0	0	1111	LINE, ROW, SERIES
859	SWR*	N	1	M	0	0	4	1	1	0	0	1111	OX
860	SWRR	N	1	M	0	0	4	12	1	0	0	1111	POET
861	SXQ*	N	1	M	0	0	4	12	1	0	0	0111	GAME, PLAY
862	SXQ*	V	4	0	8	1	1	4	1	0	0	1111	PLAY (GAMES) WITH (SOMEONE)
863	SXQ*	V	5	0	2	1	1	4	1	0	0	1111	PLAY WITH (TOYS)
864	SXR*	A	1	0	0	0	4	3	1	0	0	1111	BLACK
865	SYB*	N	1	F	0	0	4	1	1	0	0	1111	GREY HAIR, OLD AGE
866	SYK*	A	1	0	0	0	4	5	1	0	0	0111	BELONGING
867	SYM*	V	4	0	7	1	1	14	1	0	0	1111	PUT
868	SYR*	N	1	M	0	0	4	1	1	0	0	1111	SONG, POEM
869	SYR*	V	3	0	0	1	1	14	1	0	0	1111	SING
870	SYX*	N	1	F	0	0	4	1	1	0	0	1111	CONVERSATION

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
871	TAM*	V	4	0	1	1	1	7	1	0	0	1111	FIT, BE SUITABLE FOR
872	TAN*	N	1	F	0	0	4	1	1	0	0	1111	FIG TREE
873	TAN*	N	1	F	0	0	4	1	1	4	0	1111	FIG
874	TH**	N	1	M	0	0	4	1	1	7	0	0001	TEA
875	TKNY	N	1	F	0	0	4	4	1	0	1	1111	PROGRAM, PLAN, PROJECT
876	TLH*	V	3	0	0	1	1	14	1	0	0	1111	HANG
877	TOS*	N	1	F	0	0	4	16	1	0	0	0001	INDUSTRY, MANUFACTURE
878	TPC*	V	3	0	0	1	1	14	1	0	0	0111	SEIZE, CATCH, COMPREHEND, GRASP
879	TPR*	V	3	0	0	1	1	14	1	0	0	1111	SEW, TAILOR
880	TPWZ	N	1	M	0	0	4	1	1	0	0	1111	ORANGE
881	TQN*	V	3	0	0	1	1	4	1	0	0	1111	REPAIR, CORRECT, AMEND
882	TRGM	V	3	0	0	1	1	4	1	0	0	1111	TRANSLATE
883	TSO*	B	3	F	0	0	4	1	1	0	0	1111	NINE
884	TTX*	N	1	M	0	0	4	4	1	0	0	1111	CANNON
885	TWD*	N	1	F	0	0	4	1	1	0	0	1111	THANKS
886	TWK*	P	13	0	13	0	6	12	1	0	0	0111	OUT OF, FROM WITHIN
887	TWR*	N	1	M	0	0	4	1	1	0	0	1111	LINE, ONE'S TURN, WAITING LIST
888	TXL*	V	3	0	0	1	1	7	1	0	0	1111	BEGIN
889	TXL*	V	5	0	2	1	1	7	1	0	0	1111	BEGIN
890	TXT*	P	13	0	0	0	6	1	1	0	0	1111	UNDER, INSTEAD OF
891	TYQ*	N	1	M	0	0	4	1	1	0	0	0111	FOLDER, FILE, BRIEF CASE
892	W***	C	1	0	0	0	7	1	1	0	0	1111	AND
893	WOD*	N	1	F	0	0	4	2	1	0	0	0001	CONFERENCE
894	WK**	N	1	M	0	0	4	6	1	0	0	0111	DISCUSSION, ARGUMENT
895	WOD*	N	1	F	0	0	4	1	1	0	0	0001	COMMITTEE, COMMISSION
896	WTQ*	A	1	0	0	0	4	2	1	0	0	0111	VETERAN, OF LONG STANDING
897	XBB*	A	1	0	0	0	4	2	1	0	0	0111	KIND, AMIABLE, LIKE
898	XBL*	N	1	M	0	0	4	1	1	0	0	1111	ROPE
899	XBL*	N	1	F	0	0	4	2	1	0	0	0111	PACKAGE, PARCEL
900	XBR*	N	1	M	0	0	4	1	1	0	0	1111	FRIEND

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
901	XBR*	N	1	F	0	0	4	1	1	0	0	1111	FRIEND
902	XBR*	N	1	F	0	0	4	12	1	0	1	0011	BOOKLET, NOTEBOOK, PAMPHLET
903	XBR*	V	4	0	1	1	1	4	1	0	0	1111	CONNECT, JOIN
904	XBR*	N	1	F	0	0	4	1	1	0	0	0001	COMPANY, SOCIETY
905	XBR*	V	4	0	6	1	1	4	1	0	0	1111	CONNECT, JOIN
906	XBR*	V	3	0	0	1	1	4	1	0	0	0011	COMPOSE
907	XLH*	A	1	0	0	0	4	4	1	0	0	1111	ILL
908	XCN*	N	1	M	0	0	4	12	1	0	0	0001	STOREHOUSE, WAREHOUSE
909	XCR*	A	1	0	0	0	4	1	1	0	0	1111	MISSING, WANTING
910	XCR*	V	2	0	0	1	1	13	1	0	0	1111	BE MISSING, BE ABSENT
911	XDR*	N	1	M	0	0	4	1	1	0	0	1111	ROOM
912	XDS*	N	1	F	0	0	4	1	1	0	0	1111	NEWS
913	XDS*	N	1	M	0	0	4	4	1	0	0	1111	MONTH
914	XDS*	A	1	0	0	0	4	1	1	0	0	1111	NEW, FRESH
915	XMSY	A	1	0	0	0	4	2	1	7	0	1111	FIFTH
916	XGG*	N	1	M	0	0	4	2	1	0	0	1111	FEAST, FESTIVAL
917	XKH*	V	5	0	1	1	1	4	1	0	0	1111	WAIT
918	XKM*	A	1	0	0	0	4	1	1	0	0	1111	WISE
919	XLB*	N	1	M	0	0	4	1	1	0	0	1111	MILK
920	XLH*	N	1	F	0	0	4	12	1	0	0	1111	AILMENT, DISEASE
921	XL&*	N	1	F	0	0	4	4	1	0	0	0001	BLOUSE, SHIRT
922	XL@*	V	5	0	7	1	1	7	1	0	0	1111	DECIDE
923	XLL*	N	1	M	0	0	4	1	1	0	0	1111	SLAIN PERSON
924	XLL*	N	1	M	0	0	4	1	1	7	0	0001	SPACE
925	XLM*	N	1	M	0	0	4	3	1	3	0	1111	DREAM
926	XLP*	N	1	F	0	0	4	2	1	0	0	0001	SUIT
927	XLP*	V	3	0	0	1	1	7	1	0	0	1111	EXCHANGE
928	XLQ*	N	1	M	0	0	4	1	1	0	0	1111	PART, SHARE
929	XLS*	A	1	0	0	0	4	1	1	0	0	1111	WEAK
930	XM**	A	1	0	0	0	4	1	1	0	0	0001	HOT, WARM

COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
931	XMA*	N	1	F	0	0	4	1	1	0	0	1111	BUTTER
932	XMD*	A	1	0	0	0	4	18	1	0	0	0011	NICE, PRETTY
933	XMR*	N	1	M	0	0	4	3	1	0	0	1111	ASS, DONKEY
934	XMS*	B	3	F	0	0	4	1	1	0	0	1111	FIVE
935	XN**	N	1	M	0	0	4	1	1	7	0	1111	GRACE
936	XN**	N	1	F	0	0	4	3	1	0	1	1111	SHOP, STORE
937	XNH*	N	1	M	0	0	4	12	1	3	0	1111	CAMP
938	XNH*	N	1	F	0	0	4	15	1	0	0	0001	STATION
939	XNM*	D	3	0	0	0	4	5	1	7	0	1111	GRATUITOUSLY, FREELY
940	XPS*	N	1	M	0	0	4	4	1	0	0	1111	FREEDOM, VACATION
941	XPS*	V	3	0	0	1	1	4	1	0	0	1111	SEEK, LOOK FOR
942	X&R*	N	1	F	0	0	4	1	1	0	0	1111	COURTYARD
943	XQ**	N	1	M	0	0	4	4	1	0	0	1111	LAW
944	XRP*	N	1	M	0	0	4	4	1	0	0	1111	WINTER
945	XRS*	N	1	F	0	0	4	4	1	0	0	0001	GROVE
946	XRZ*	N	1	M	0	0	4	3	1	0	0	1111	VERSE, RHYME, BEAD
947	XSB*	N	1	M	0	0	4	23	1	3	0	1111	ACCOUNT, BILL, INVOICE
948	XSB*	V	5	0	1	1	1	14	1	0	0	1111	CONSIDER
949	XSB*	V	7	0	0	1	1	14	1	0	0	1111	THINK
950	XSB*	A	1	0	0	0	4	4	1	0	0	0111	IMPORTANT
951	XSB*	V	5	0	7	1	1	14	1	0	0	1111	THINK ABOUT
952	XSK*	N	1	M	0	0	4	4	1	7	0	1111	DARKNESS
953	XTK*	N	1	F	0	0	4	2	1	0	0	1111	CUT, PIECE
954	XTK*	V	3	0	0	1	1	14	1	0	0	1111	CUT
955	XTL*	N	1	M	0	0	4	3	1	0	0	0001	CAT
956	XTL*	N	1	F	0	0	4	3	1	0	0	0001	CAT
957	XTM*	V	3	0	0	1	1	14	1	0	0	1111	SEAL
958	XTM*	V	5	0	7	1	1	14	1	0	0	1111	SIGN
959	XTN*	V	2	0	0	1	1	6	1	0	0	0111	GET MARRIED
960	XWG*	N	1	M	0	0	4	1	1	0	0	0001	CIRCLE (OF PEOPLE)

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
961	XWW*	N	1	M	0	0	4	1	1	0	0	0111	THREAD, WIRE, STRING
962	XWL*	N	1	M	0	0	4	1	1	3	0	1111	SAND
963	XWM*	N	1	M	0	0	4	1	1	7	0	0111	HEAT, FEVER
964	XWR*	N	1	M	0	0	4	1	1	0	0	1111	HOLE
965	XWS*	N	1	M	0	0	4	1	1	0	0	1111	FEELING, SENSE
966	XY**	A	1	0	0	0	4	1	1	0	0	1111	LIVING, VIVID, ALIVE
967	XYW*	N	1	M	0	0	4	1	1	0	0	0001	TAILOR
968	XYL*	N	1	M	0	0	4	2	1	0	0	1111	SOLDIER
969	XYYM	N	1	M	0	0	4	1	1	9	0	1111	LIFE
970	XYYM	N	3	M	0	0	4	1	1	0	0	1111	PERSONAL NAME
971	XZQ*	A	1	0	0	0	4	1	1	0	0	1111	STRONG
972	XZQ*	V	3	0	0	1	1	4	1	0	0	1111	STRENGTHEN
973	XZR*	V	2	0	0	1	1	14	1	0	0	0111	COME BACK
974	XZR*	V	4	0	1	1	1	7	1	0	0	1111	RESTORE, RETURN (SOMETHING)
975	XZR*	V	5	0	7	1	1	14	1	0	0	0111	REPEAT
976	YBS*	A	1	0	0	0	4	1	1	0	0	1111	DRY
977	YCD*	N	1	M	0	0	4	3	1	3	0	1111	FOUNDATION, FUNDAMENT, ELEMENT, GROUND
978	YLD*	N	1	M	0	0	4	1	1	0	0	1111	BOY
979	YCF*	V	4	0	1	1	1	7	1	0	0	1111	ADD
980	YD**	N	1	F	0	0	4	1	1	12	0	1111	HAND
981	YDD*	N	1	M	0	0	4	2	1	0	0	1111	FRIEND
982	YDO*	N	1	F	0	0	4	2	1	0	0	1111	INFORMATION, NEWS, MESSAGE
983	YDO*	V	3	0	0	1	1	13	1	0	0	1111	KNOW
984	YDO*	V	4	0	1	1	1	7	1	0	0	1111	INFORM
985	YDO*	V	5	0	7	1	1	7	1	0	0	1111	ANNOUNCE
986	YHDY	A	1	0	0	0	4	3	1	0	0	1111	JEWISH
987	YKL*	V	2	0	0	1	1	1	1	0	0	1111	BE ABLE, CAN
988	YM**	N	1	M	0	0	4	1	1	0	0	1111	SEA
989	YMYN	D	2	0	0	0	4	12	1	0	0	1111	AT THE RIGHT
990	YNH*	N	1	F	0	0	4	4	1	0	0	1111	PIGEON, DOVE

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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.  ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD      ENGLISH EQUIV.

991  YNH*  N  3  M  0  0  4  4  1  0  0   1111       PERSONAL NAME
992  YNH*  N  3  F  0  0  4  4  1  0  0   1111       PERSONAL NAME
993  YNQ*  N  1  M  0  0  4 17  1  3  0   0111       BABY
994  YO&*  N  1  M  0  0  4  4  1  0  0   1111       ADVISER
995  YOR*  N  1  M  0  0  4  1  1  3  0   1111       FOREST
996  YPH*  A  1  0  0  0  4  1  1  0  0   1111       NICE, FINE
997  YPH*  N  3  F  0  0  4  1  1  0  0   0011       PERSONAL NAME
998  Y&A*  V  2  0  0  1  1 12  1  0  0   1111       GO OUT, COME OUT
999  Y&A*  V  3  0  0  1  1  7  1  0  0   1111       TAKE OUT, GIVE (PUT) OUT, SPEND (MONEY)
1000 YGR*  A  1  0  0  0  4  1  1  0  0   1111       DEAR, BELOVED, EXPENSIVE
1001 YRD*  V  4  0  1  1  1  7  1  0  0   1111       TAKE (PUT, BRING) DOWN
1002 YRD*  V  5  0  6  1  1 13  1  0  0   1111       GO DOWN, DESCEND
1003 YRQ*  A  1  0  0  0  4  3  1  0  0   1111       GREEN
1004 YRQ*  N  0  M  0  0  4  1  1 10  0   1111       VEGETABLE, GREENNESS
1005 YRX*  N  1  M  0  0  4  1  1  0  0   1111       MOON
1006 YSN*  A  1  0  0  0  4  1  1  0  0   1111       OLD, ANCIENT
1007 YSN*  V  2  0  0  1  1 13  1  0  0   1111       SLEEP
1008 YSR*  D  2  0  0  0  4  1  1  0  0   1111       DIRECTLY, STRAIGHT
1009 YTR*  N  1  M  0  0  4  1  1  0  0   1111       REST
1010 YTR*  D  4  0  0  0  4  4  1  0  0   1111       MORE
1011 YWM*  N  1  M  0  0  4 35  1  0  0   1111       DAY
1012 YXD*  D  3  0  0  0  4  1  1  0  0   1111       TOGETHER
1013 YYN*  N  1  M  0  0  4  1  1  3  0   1111       WINE
1014 ZBB*  N  1  M  0  0  4  3  1  0  0   0001       FLY
1015 ZH**  R  1  M  0  0  5  1  1  7  0   1111       THIS
1016 ZHB*  N  1  M  0  0  4  1  1  0  0   1111       GOLD
1017 ZHR*  A  1  0  0  0  4  2  1  0  0   0111       PRUDENT, CAREFUL
1018 ZHYR  N  1  F  0  0  4 32  1  0  1   0111       CAUTION
1019 ZKH*  N  1  F  0  0  4  3  1  0  1   0111       RIGHT, CREDIT, PRIVILEGE
1020 ZKR*  N  1  M  0  0  4  1  1  7  0   1111       MEMORY, COMMEMORATION
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COMPUTERIZED HEBREW TO ENGLISH DICTIONARY

NO.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD	ENGLISH EQUIV.
1021	ZKR*	V	3	0	0	1	1	7	1	0	0	1111	MENTION
1022	ZKR*	V	3	0	0	1	1	14	1	0	0	1111	REMEMBER
1023	ZKR*	V	4	0	1	1	1	7	1	0	0	1111	REMIND
1024	ZKWK	N	1	F	0	0	4	31	1	0	1	1111	GLASS
1025	ZLG*	N	1	M	0	0	4	12	1	3	0	0111	FORK
1026	ZMN*	N	1	M	0	0	4	1	1	0	0	1111	TIME
1027	ZMN*	V	3	0	0	1	1	7	1	0	0	0111	INVITE, CALL TO COME, ORDER
1028	ZMR*	N	1	F	0	0	4	17	1	0	1	0001	ORCHESTRA
1029	ZNB*	N	1	M	0	0	4	1	1	3	0	1111	TAIL
1030	ZQN*	A	1	0	0	0	4	1	1	0	0	1111	OLD (OF AGE)
1031	ZQN*	N	1	M	0	0	4	1	1	0	0	1111	BEARD
1032	ZQN*	V	2	0	0	1	1	13	1	0	0	1111	BE OLD
1033	ZR**	A	1	0	0	0	4	1	1	0	0	1111	FOREIGN
1034	ZRM*	N	1	M	0	0	4	1	1	0	0	1111	CURRENT, TREND
1035	ZRQ*	V	3	0	0	1	1	14	1	0	0	1111	THROW OFF, THROW AWAY
1036	ZRX*	N	1	M	0	0	4	12	1	7	0	1111	EAST, ORIENT
1037	ZW**	R	1	F	0	0	5	1	1	7	0	1111	THIS
1038	ZWD*	N	1	F	0	0	4	14	1	0	0	0001	SUITCASE
1039	ZWG*	N	1	M	0	0	4	1	1	3	0	1111	PAIR, COUPLE
1040	ZYT*	N	1	M	0	0	4	1	1	0	0	1111	OLIVE

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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.  ENGLISH EQUIV.                          ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD

 1   A LITTLE, A BIT                         Q&T*  D  4  0  0  0  4  1  1  0  0   0011
 2   ACCEPT, RECEIVE, GET                    QBL*  V  4  0  0  1  1  4  1  0  0   1111
 3   ACCOUNT, BILL, INVOICE                  XSB*  N  1  M  0  0  4 23  1  3  0   1111
 4   ACT                                     OSH*  N  1  M  0  0  4 12  1  0  0   1111
 5   ACT                                     POL*  V  3  0  0  1  1 13  1  0  0   1111
 6   ADAM                                    ADM*  N  3  M  0  0  4  1  1  7  0   1111
 7   ADD                                     YCF*  V  4  0  1  1  1  7  1  0  0   1111
 8   ADDRESS, INSCRIPTION                    KTB*  N  1  F  0  0  4  3  1  0  1   1111
 9   ADVICE                                  O&H*  N  1  F  0  0  4  1  1  0  0   1111
10   ADVISER                                 YO&*  N  1  M  0  0  4  4  1  0  0   1111
11   AFTER                                   AXR*  P 12  0 12  0  6 19  1  0  0   1111
12   AGAIN                                   SWB*  D  3  0  0  0  4  1  1  0  0   0111
13   AGAINST                                 NGD*  P 13  0 13  0  6  1  1  0  0   1111
14   AILMENT, DISEASE                        XLH*  N  1  F  0  0  4 12  1  0  0   1111
15   AIR, ATMOSPHERE                         AWR*  N  2  M  0  0  4  2  1  7  0   1111
16   ALL, EVERY, WHOLE, ANY                  KWL*  N  1  0  0  0  4  1  1  0  0   1111
17   ALMOST                                  KMO@  D  3  0  0  0  4  1  1  0  0   1111
18   ALONE                                   LBD*  D  3  0  0  0  4  1  1  0  0   1111
19   ALREADY                                 KBR*  D  1  0  0  0  4  1  1  0  0   1111
20   ALSO, TOO                               GM**  D  3  0  0  0  7  1  1  0  0   1111
21   ALWAYS                                  MYD*  D  1  0  0  0  4 15  1  0  0   1111
22   AND                                     W***  C  1  0  0  0  7  1  1  0  0   1111
23   ANGEL                                   MLAK  N  1  M  0  0  4  1  1  0  0   1111
24   ANNOUNCE                                YDO*  V  5  0  7  1  1  7  1  0  0   1111
25   ANSWER, REPLY                           ONH*  V  5  0  7  1  1 14  1  0  0   1111
26   ANSWER, REPLY                           ONH*  V  7  0  0  1  1 14  1  0  0   1111
27   ANSWER, GIVE BACK, BRING BACK           SWB*  V  4  0  1  1  1  7  1  0  0   1111
28   ANSWER                                  SWB*  N  1  F  0  0  4 15  1  0  0   1111
29   ANYTHING, NOTHING                       KLM*  R  6  0  0  0  4  3  1  0  0   1111
30   APARTMENT, FLAT                         DR**  N  1  F  0  0  4  5  1  0  0   0111
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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
31	APPLE	PWX*	N	1	M	0	0	4	15	1	0	0	1111
32	ARMY	&BA*	N	1	M	0	0	4	1	1	3	0	1111
33	ARRANGEMENT, PASSOVER EVE SERVIC	CDR*	N	1	M	0	0	4	1	1	0	0	0111
34	ARRANGE, STAGE, SET	ORK*	V	3	0	0	1	1	14	1	0	0	1111
35	ARRANGE	CDR*	V	3	0	0	1	1	4	1	0	0	0111
36	ARRIVE REACH	NGO*	V	5	0	1	1	1	7	1	0	0	1111
37	ASK	BQS*	V	7	0	0	1	1	4	1	0	0	1111
38	ASK	SAL*	V	8	0	0	1	1	13	1	0	0	1111
39	ASK	SAL*	V	7	0	0	1	1	13	1	0	0	1111
40	ASK FOR, DEMAND, REQUEST, BEG	BQS*	V	3	0	0	1	1	4	1	0	0	1111
41	ASK (SOMETHING) FROM (SOMEONE)	BOS*	V	4	0	5	1	1	4	1	0	0	1111
42	ASS, DONKEY	XMR*	N	1	M	0	0	4	3	1	0	0	1111
43	AT ALL, IN GENERAL	BKLL	D	4	0	0	0	4	1	1	0	0	0011
44	AT THE RIGHT	YMYN	D	2	0	0	0	4	12	1	0	0	1111
45	AUNT	DWD*	N	1	F	0	0	4	1	1	0	0	1111
46	AUTHORIZE	CMK*	V	4	0	1	1	1	7	1	0	0	0111
47	AUTUMN, FALL	CTW*	N	1	M	0	0	4	2	1	7	0	0001
48	AUTUMN, FALL	CTW*	N	1	M	0	0	4	2	1	0	0	1111
49	BABY	YNQ*	N	1	M	0	0	4	17	1	3	0	0111
50	BAD, EVIL	RO**	A	1	0	0	0	4	1	1	0	0	1111
51	BALL, GLOBE, BULLET	KDR*	N	1	M	0	0	4	3	1	0	0	1111
52	BARBER	CPR*	N	1	M	0	0	4	1	1	0	0	0011
53	BARBERSHOP	CPR*	N	1	F	0	0	4	12	1	0	0	0001
54	BASKET, SHOPPING BAG	CL**	N	1	M	0	0	4	1	1	0	0	1111
55	BATHTUB, BATHROOM	AMB@	N	1	F	0	0	4	19	1	0	0	0111
56	BATTLE	QRB*	N	1	M	0	0	4	1	1	3	0	1111
57	BE ABLE, CAN	YKL*	V	2	0	0	1	1	1	1	0	0	1111
58	BE ACQUAINTED WITH, RECOGNIZE	NKR*	V	3	0	0	1	1	7	1	0	0	1111
59	BE AFRAID OF	PXD*	V	5	0	4	1	1	13	1	0	0	1111
60	BE INTERESTED	ONYN	V	2	0	0	1	1	6	1	0	0	0001

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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.  ENGLISH EQUIV.                          ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD

 61  BE MISSING, BE ABSENT                   XCR*  V  2  0  0  1  1 13  1  0  0   1111
 62  BE OLD                                  ZQN*  V  2  0  0  1  1 13  1  0  0   1111
 63  BE RECEIVED                             QBL*  V  0  0  0  2  1  6  1  0  0   0111
 64  BE RIGHT, BE JUST                       &DQ*  V  2  0  0  1  1 12  1  0  0   1111
 65  BE STARTLED, RECOIL                     RTO*  V  5  0  4  1  1  3  1  0  0   1111
 66  BE SURPRISED, BE ASTONISHED, WON        PLA*  V  2  0  0  1  1  6  1  0  0   0111
 67  BEARD                                   ZQN*  N  1  M  0  0  4  1  1  0  0   1111
 68  BED                                     M@H*  N  1  F  0  0  4  5  1  0  0   1111
 69  BEGIN                                   PTX*  V  5  0  2  1  1 13  1  0  0   1111
 70  BEGIN                                   TXL*  V  5  0  2  1  1  7  1  0  0   1111
 71  BEGIN                                   TXL*  V  3  0  0  1  1  7  1  0  0   1111
 72  BELIEVE                                 AMN*  V  5  0  2  1  1  7  1  0  0   1111
 73  BELL                                    POM*  N  1  M  0  0  4 23  1  0  0   1111
 74  BELLY, WOMB, BOWELS                     B@N*  N  1  F  0  0  4  1  1  6  0   1111
 75  BELONGING                               SYK*  A  1  0  0  0  4  5  1  0  0   0111
 76  BESIDE, NEAR, AT, WITH                  A&L*  P 13  0 13  0  6  1  1  0  0   1111
 77  BETWEEN, AMONG                          BYN*  P 13  0  0  0  6  1  1  0  0   1111
 78  BIG, LARGE, GREAT                       GDL*  A  1  0  0  0  4  3  1  0  0   1111
 79  BIRD                                    &PR*  N  1  F  0  0  4  6  1  6  0   1111
 80  BIRTH                                   HLD*  N  1  F  0  0  4  4  1  7  1   1111
 81  BITTER                                  MR**  A  1  0  0  0  4  1  1  0  0   1111
 82  BLACK                                   SXR*  A  1  0  0  0  4  3  1  0  0   1111
 83  BLESS (SOMEONE) WITH (SOMETHING)        BRK*  V  8  0  0  1  1  4  1  0  0   1111
 84  BLOOD                                   DM**  N  1  M  0  0  4  1  1  0  0   1111
 85  BLOUSE, SHIRT                           XL&*  N  1  F  0  0  4  4  1  0  0   0001
 86  BLOW, STROKE, WOUND                     MKH*  N  1  F  0  0  4  1  1  0  0   1111
 87  BLUE                                    KXL*  A  1  0  0  0  4  3  1  0  0   0111
 88  BOAT                                    CYR*  N  1  F  0  0  4  1  1  0  0   1111
 89  BODY, SUBSTANCE, PERSON                 GWP*  N  1  M  0  0  4  1  1  0  0   0111
 90  BODY, SUBSTANCE, PERSON                 GWP*  N  1  M  0  0  4  1  1  3  0   0111
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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.  ENGLISH EQUIV.                         ROOT   A  C  G  R  V  U  S  F  X  H  PERIOD

 91  2  2                                    888
 92  BONE                                   O8M*   N  1  F  0  0  4  1  1  2  0   1111
 93  BOOKLET, NOTEBOOK, PAMPHLET            XBR*   N  1  F  0  0  4 12  1  0  1   0011
 94  BOOK, LETTER, SCROLL                   CPR*   N  1  M  0  0  4  1  1  0  0   1111
 95  BORROW                                 SAL*   V  4  0  5  1  1 13  1  0  0   1111
 96  BOTTLE                                 BQBQ   N  1  M  0  0  4 41  1  0  0   1111
 97  BOUDOIR, BEAUTY SHOP                   CLN*   N  1  M  0  0  4  3  1  0  0   0001
 98  BOX CASE                               QPC*   N  1  F  0  0  4  4  1  0  0   0111
 99  BOY                                    YLD*   N  1  M  0  0  4  1  1  0  0   1111
100  BOY, YOUNGSTER                         NOR*   N  1  M  0  0  4  1  1  0  0   1111
101  BREAD                                  LXM*   N  1  M  0  0  4  1  1  0  0   1111
102  BRING, LEAD IN                         BWA*   V  4  0  1  1  1  7  1  0  0   1111
103  BRING IN, PUT                          KNC*   V  4  0  1  1  1  7  1  0  0   1111
104  BROAD, WIDE                            RXB*   A  1  0  0  0  4  1  1  0  0   1111
105  BROOM, FLOORBRUSH                      @A@A   N  1  M  0  0  4 12  1  0  0   1111
106  BROTHER                                AXY*   N  1  M  0  0  4 27  1  0  0   1111
107  BRUSH                                  BRS*   N  1  F  0  0  4 12  1  0  1   0001
108  BUILD, CONSTRUCT                       BNH*   V  8  0  0  1  1 14  1  0  0   1111
109  BUILDING, STRUCTURE                    BNY*   N  1  M  0  0  4 22  1  0  0   1111
110  BURN                                   BOR*   V  3  0  0  1  1 13  1  0  0   1110
111  BURN                                   BOR*   V  2  0  0  1  1 13  1  0  0   1111
112  BURNT                                  SRP*   A  1  0  0  0  4  3  1  0  0   1111
113  BUSY                                   OCQ*   A  1  0  0  0  4  3  1  0  0   0111
114  BUT                                    ABL*   C  8  0  0  0  7  1  1  0  0   1111
115  BUTTER                                 XMA*   N  1  F  0  0  4  1  1  0  0   1111
116  BUTTON                                 KPTR   N  1  M  0  0  4 41  1  0  0   1111
117  BUT, RATHER                            ALA*   C  8  0  0  0  7  1  1  0  0   1111
118  BUY, ACQUIRE                           QNH*   V  3  0  0  1  1 14  1  0  0   1111
119  CABIN, WOODEN HUT                      &RP*   N  1  M  0  0  4  2  1  0  0   0001
120  CALL, CALL UPON                        QRA*   V  5  0  1  1  1 13  1  0  0   1111
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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
121	CAMP	XNH*	N	1	M	0	0	4	12	1	3	0	1111
122	CANDLE	NR**	N	1	M	0	0	4	1	1	3	0	1111
123	CANNON	TTX*	N	1	M	0	0	4	4	1	0	0	1111
124	CAP, HAT	KBO*	N	1	M	0	0	4	4	1	0	0	1111
125	CARPENTER	NGR*	N	1	M	0	0	4	1	1	0	0	0111
126	CART	OGL*	N	1	F	0	0	4	1	1	0	0	0111
127	CAT	XTL*	N	1	M	0	0	4	3	1	0	0	0001
128	CAT	XTL*	N	1	F	0	0	4	3	1	0	0	0001
129	CATEGORY	CWG*	N	1	M	0	0	4	1	1	0	0	0111
130	CAUTION	ZHYR	N	1	F	0	0	4	32	1	0	1	0111
131	CEILING	QRH*	N	1	F	0	0	4	15	1	0	0	0111
132	CENTER	RKZ*	N	1	M	0	0	4	12	1	0	0	0001
133	CENTURY	MAH*	N	1	F	0	0	4	1	1	0	0	0111
134	CERTIFICATE, DOCUMENT	OWD*	N	1	F	0	0	4	15	1	0	0	1111
135	CHAIR	KCA*	N	1	M	0	0	4	1	1	3	0	1111
136	CHALK	GYR*	N	1	M	0	0	4	1	1	0	0	0001
137	CHAPTER	PRQ*	N	1	M	0	0	4	1	1	0	0	0111
138	CHEESE	GBN*	N	1	F	0	0	4	2	1	0	0	0111
139	CHICKEN COOP	LWL*	N	1	M	0	0	4	1	1	0	0	1111
140	CHOOSE, SELECT, ELECT	BXR*	V	3	0	0	1	1	13	1	0	0	1111
141	CIRCLE (OF PEOPLE)	XWG*	N	1	M	0	0	4	1	1	0	0	0001
142	CITY	OYR*	N	1	F	0	0	4	35	1	6	0	1111
143	CLASS, SECT	KT**	N	1	F	0	0	4	5	1	0	0	0111
144	CLEAN	NQY*	A	1	0	0	0	4	1	1	0	0	1111
145	CLEAR	BRR*	A	1	0	0	0	4	3	1	0	0	1111
146	CLERK, OFFICIAL	PQD*	N	1	M	0	0	4	2	1	0	0	1111
147	CLOCK, WATCH	SON*	N	1	M	0	0	4	3	1	0	0	0111
148	CLOUD	ONN*	N	1	M	0	0	4	1	1	0	0	1111
149	COFFEE	QPH*	N	1	M	0	0	4	1	1	7	0	0001
150	COIN (OF LITTLE VALUE)	AGR*	N	1	F	0	0	4	3	1	0	0	0001

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
151	COLD	QR**	A	1	0	0	0	4	1	1	0	0	1111
152	COLOR, PAINT, DYE	&BO*	N	1	M	0	0	4	1	1	0	0	1111
153	COMB	CRQ*	N	1	M	0	0	4	12	1	3	0	0001
154	COME NEAR, APPROACH	NGS*	V	5	0	6	1	1	3	1	0	0	1111
155	COME NEAR, APPROACH	NGS*	V	5	0	6	1	1	3	1	0	0	1111
156	COME BACK	XZR*	V	2	0	0	1	1	14	1	0	0	0111
157	COME, ARRIVE	BWA*	V	2	0	0	1	1	14	1	0	0	1111
158	COMFORTABLE, MODERATE	NWX*	A	1	0	0	0	4	1	1	0	0	1111
159	COMMAND, ORDER	PQD*	N	1	F	0	0	4	3	1	0	0	1111
160	COMMANDMENT, MORAL COMMAND, GOOD	&WH*	N	1	F	0	0	4	12	1	0	0	1111
161	COMMERCE	CXR*	N	1	M	0	0	4	12	1	7	0	0111
162	COMMITTEE, COMMISSION	WOD*	N	1	F	0	0	4	1	1	0	0	0001
163	COMPANY, SOCIETY	XBR*	N	1	F	0	0	4	1	1	0	0	0001
164	COMPLETE, ENTIRE	SLM*	A	1	0	0	0	4	1	1	0	0	1111
165	COMPOSE	XBR*	V	3	0	0	1	1	4	1	0	0	0011
166	CONCERN, CARE	AKPT	V	5	0	1	1	1	13	1	0	0	0111
167	CONCEALED	KMC*	A	1	0	0	0	4	3	1	0	0	1111
168	CONFERENCE	WOD*	N	1	F	0	0	4	2	1	0	0	0001
169	CONNECT, JOIN	XBR*	V	4	0	1	1	1	4	1	0	0	1111
170	CONNECT, JOIN	XBR*	V	4	0	8	1	1	4	1	0	0	1111
171	CONSENT, AGREE	CKM*	V	2	0	1	1	1	7	1	0	0	0111
172	CONSIDER	XSB*	V	5	0	1	1	1	14	1	0	0	1111
173	CONTINUE	MSK*	V	3	0	0	1	1	7	1	0	0	0111
174	CONTINUATION	MSK*	N	1	M	0	0	4	9	1	0	0	0001
175	CONVERSATION	SYX*	N	1	F	0	0	4	1	1	0	0	1111
176	COOK	BSL*	V	4	0	1	1	1	4	1	0	0	1111
177	COOK	@BX*	N	1	M	0	0	4	1	1	0	0	1111
178	CORNER	PNH*	N	1	F	0	0	4	5	1	0	0	1111
179	CORRECTLY	KWN*	D	3	0	0	0	4	18	1	0	0	1111
180	COUCH, SOFA	CP**	N	1	F	0	0	4	1	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
181	COUNTRY, LAND, EARTH	AR&*	N	1	F	0	0	4	1	1	0	0	1111
182	COUNT, TAKE A CENSUS OF	CPR*	V	3	0	0	1	1	14	1	0	0	1111
183	COURTYARD	X&R*	N	1	F	0	0	4	1	1	0	0	1111
184	COVER	KCH*	V	3	0	0	1	1	4	1	0	0	1111
185	COW	PR**	N	1	F	0	0	4	1	1	0	0	1111
186	CREEK	NKL*	N	1	M	0	0	4	1	1	0	0	1111
187	CREST POSITION	SL@*	N	1	M	0	0	4	12	1	0	0	0001
188	CRISIS, BREAKDOWN	SBR*	N	1	M	0	0	4	12	1	0	0	1111
189	CRY OUT, SHOUT, CALL ALOUD	&OQ*	V	2	0	0	1	1	13	1	0	0	1111
190	CULTURE, CIVILIZATION	RBH*	N	1	F	0	0	4	17	1	0	1	1111
191	CUP	CPL*	N	1	M	0	0	4	1	1	0	0	0001
192	CUPBOARD, CLOSET; ARK; COFFIN	ARN*	N	1	M	0	0	4	3	1	3	0	1111
193	CURRENT, TREND	ZRM*	N	1	M	0	0	4	1	1	0	0	1111
194	CUSTOM	NHG*	N	1	M	0	0	4	12	1	0	0	0111
195	CUT	XTK*	V	3	0	0	1	1	14	1	0	0	1111
196	CUT HAIR	CPR*	V	3	0	0	1	1	4	1	0	0	0111
197	CUT, PIECE	XTK*	N	1	F	0	0	4	2	1	0	0	1111
198	DANCE	RQD*	V	3	0	0	1	1	14	1	0	0	1111
199	DANCE	RQD*	V	2	0	0	1	1	14	1	0	0	1111
200	DANGER	CKN*	N	1	F	0	0	4	1	1	0	0	0111
201	DARKNESS	XSK*	N	1	M	0	0	4	4	1	7	0	1111
202	DAUGHTER, GIRL	BT**	N	1	F	0	0	4	30	1	0	1	1111
203	DAY	YWM*	N	1	M	0	0	4	35	1	0	0	1111
204	DEAD	MT**	A	1	0	0	0	4	1	1	0	0	1111
205	DEAD	MT**	N	1	M	0	0	4	1	1	0	0	1111
206	DEAL WITH	OCQ*	V	2	0	0	1	1	6	1	0	0	0111
207	DEAR, BELOVED, EXPENSIVE	YQR*	A	1	0	0	0	4	1	1	0	0	1111
208	DEATH	MWT*	N	1	M	0	0	4	3	1	7	0	1111
209	DECIDE	XL@*	V	5	0	7	1	1	7	1	0	0	1111
210	DEEP, PROFOUND	OMQ*	A	1	0	0	0	4	3	1	0	0	1111

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
211	DELEGATION	SLX*	N	1	F	0	0	4	12	1	0	1	1111
212	DESERT, WILDERNESS	DBR*	N	1	M	0	0	4	12	1	0	0	1111
213	DESERT, WILDERNESS	DBR*	N	1	M	0	0	4	12	1	3	0	1111
214	DICTIONARY, LEXICON	MLN*	N	1	M	0	0	4	6	1	0	0	0001
215	DIE	MWT*	V	2	0	0	1	1	13	1	0	0	1111
216	DIFFERENCE	BDL*	N	1	M	0	0	4	9	1	0	0	0001
217	DIFFICULTY	QSY*	N	1	M	0	0	4	4	1	0	0	1111
218	DIRECTOR, MANAGER	NHL*	N	1	M	0	0	4	12	1	0	0	0011
219	DIRECTLY, STRAIGHT	YSR*	D	2	0	0	0	4	1	1	0	0	1111
220	DISCUSSION, ARGUMENT	WK**	N	1	M	0	0	4	6	1	0	0	0111
221	DISTANCE	RXQ*	N	1	M	0	0	4	12	1	0	0	1111
222	DISTURB	PRO*	V	5	0	1	1	1	7	1	0	0	1111
223	DO NOT	AL**	L	4	0	0	0	4	1	1	0	0	1111
224	DOG	KLB*	N	1	M	0	0	4	1	1	0	0	1111
225	DOOR	DLT*	N	1	F	0	0	4	1	1	0	1	1111
226	DOUBT	CPQ*	N	1	M	0	0	4	1	1	3	0	0111
227	DOWN, BELOW, DOWNSTAIRS	LMQH	D	2	0	0	0	4	1	1	0	0	1111
228	DO, MAKE	OSH*	V	4	0	1	1	1	14	1	0	0	1111
229	DRAW	&YYR	V	3	0	0	1	1	4	1	0	0	0111
230	DREAM	XLM*	N	1	M	0	0	4	3	1	3	0	1111
231	DRESS (ONESELF)	LBS*	V	2	0	0	3	1	6	1	0	0	1111
232	DRESS (ONESELF) FOR (OCCASION)	LBS*	V	5	0	1	3	1	6	1	0	0	1111
233	DRESS	SML*	N	1	F	0	0	4	1	1	0	0	1111
234	DRINK	STH*	V	3	0	0	1	1	14	1	0	0	1111
235	DRIVER	NHG*	N	1	M	0	0	4	1	1	0	0	0001
236	DRY	YBS*	A	1	0	0	0	4	1	1	0	0	1111
237	DUST	ABQ*	N	1	M	0	0	4	1	1	7	0	1111
238	DWELL WITH	GWR*	V	5	0	8	1	1	14	1	0	0	1111
239	EAR	AZN*	N	1	F	0	0	4	4	1	12	0	1111
240	EARLY, PREMATURE	QDM*	A	1	0	0	0	4	12	1	0	0	0111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
241	EARLY	QWDM	D	1	0	0	0	4	12	1	0	0	0111
242	EARTH, SOIL	ADM*	N	1	F	0	0	4	1	1	0	0	1111
243	EAST, ORIENT	ZRX*	N	1	M	0	0	4	12	1	7	0	1111
244	EAT	AKL*	V	2	0	0	1	1	13	1	0	0	1111
245	EAT	AKL*	V	3	0	0	1	1	13	1	0	0	1111
246	ECONOMY, HOUSEHOLD, FARM	MSQ*	N	1	M	0	0	4	1	1	0	0	1111
247	EGG	BY&*	N	1	F	0	0	4	1	1	4	0	1111
248	EIGHT	SMN*	B	3	M	0	0	4	3	1	0	0	1111
249	EIGHT	SMN*	B	3	F	0	0	4	3	1	0	0	1111
250	EIGHTH	SMNY	A	1	0	0	0	4	2	1	0	0	1111
251	ELECTED ASSEMBLY	KNC*	N	1	F	0	0	4	1	1	0	1	0111
252	END	CWP*	N	1	M	0	0	4	1	1	7	0	1111
253	ENDEAVOR, DO ONE'S BEST	SDL*	V	2	0	0	1	1	6	1	0	0	0111
254	ENTER	KNC*	V	5	0	6	1	1	3	1	0	0	1111
255	ENTER, COME IN	KNC*	V	2	0	0	1	1	3	1	0	0	0111
256	ENTRY, ENTRANCE	KNC*	N	1	F	0	0	4	2	1	0	0	0111
257	ENVELOPE	OQP*	N	1	F	0	0	4	12	1	0	0	0001
258	EQUAL, WORTH	SWH*	A	1	0	0	0	4	3	1	0	0	0111
259	EVEN	APLW	D	4	0	0	0	4	2	1	0	0	1111
260	EVENING	ORB*	N	1	M	0	0	4	1	1	0	0	1111
261	EXAMPLE, ALLEGORY	MSL*	N	1	M	0	0	4	1	1	0	0	1111
262	EXAMPLE, ALLEGORY	MSL*	N	1	M	0	0	4	1	1	0	0	1111
263	EXCEED, PASS	OBR*	V	3	0	0	1	1	14	1	0	0	1111
264	EXCHANGE	XLP*	V	3	0	0	1	1	7	1	0	0	1111
265	EXPERIENCE, TRY, EXPERIMENT	NCY*	N	1	M	0	0	4	23	1	3	0	0111
266	EXPLAIN	CBR*	V	4	0	1	1	1	7	1	0	0	0111
267	EYE	OYN*	N	1	F	0	0	4	1	1	12	0	1111
268	FACE, FRONT SIDE, SURFACE	PNYM	N	1	M	0	0	4	1	1	9	0	1111
269	FACE, FRONT SIDE, SURFACE	PNYM	N	1	F	0	0	4	1	1	9	0	1111
270	FALL ASLEEP	RDM*	V	2	0	0	1	1	3	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
271	FALL, HAPPEN	NPL*	V	2	0	0	1	1	14	1	0	0	1111
272	FAMILY	SPX*	N	1	F	0	0	4	12	1	0	0	1111
273	FAR AWAY, REMOTE	RXQ*	A	1	0	0	0	4	3	1	0	0	1111
274	FASHION, WAY, FORM	&R**	N	1	F	0	0	4	4	1	0	0	1111
275	FAST, SWIFT	MHR*	A	1	0	0	0	4	2	1	0	0	1111
276	FAT	SMN*	A	1	0	0	0	4	1	1	0	0	1111
277	FATHER	ABA*	N	1	M	0	0	4	26	1	3	0	0001
278	FATHER	ABY*	N	1	M	0	0	4	27	1	3	0	1110
279	FAUCET, TAP	BRZ*	N	1	M	0	0	4	1	1	0	0	1111
280	FEAR	DAG*	V	5	0	4	1	1	13	1	0	0	1111
281	FEAR	PXD*	N	1	M	0	0	4	1	1	0	0	1111
282	FEAST, FESTIVAL	XGG*	N	1	M	0	0	4	2	1	0	0	1111
283	FEELING, SENSE	XWS*	N	1	M	0	0	4	1	1	0	0	1111
284	FENCE	GDR*	N	1	F	0	0	4	1	1	2	0	1111
285	FENCE	GDR*	N	1	F	0	0	4	1	1	6	0	1111
286	FEW	MO@*	A	1	0	0	0	4	1	1	0	0	1111
287	FIELD	SDH*	N	1	M	0	0	4	1	1	3	0	1111
288	FIELD	SDH*	N	1	F	0	0	4	1	1	0	0	1111
289	FIFTH	XMSY	A	1	0	0	0	4	2	1	7	0	1111
290	FIG	TAN*	N	1	F	0	0	4	1	1	4	0	1111
291	FIG TREE	TAN*	N	1	F	0	0	4	1	1	0	0	1111
292	FIGHT, WAGE WAR	LXM*	V	5	0	2	1	1	3	1	0	0	1111
293	FILL	MLA*	V	8	0	0	1	1	4	1	0	0	1111
294	FIND	M&A*	V	3	0	0	1	1	13	1	0	0	1111
295	FINGER, TOE	&BO*	N	1	F	0	0	4	7	1	2	0	1111
296	FINISH	GMR*	V	3	0	0	1	1	14	1	0	0	1111
297	FIRE	AS**	N	1	F	0	0	4	1	1	7	0	1111
298	FIRST	RAS*	A	1	0	0	0	4	23	1	0	0	1111
299	FISH	DG**	N	1	M	0	0	4	1	1	0	0	1111
300	FIT, BE SUITABLE FOR	TAM*	V	4	0	1	1	1	7	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
301	FIVE	XMS*	B	3	F	0	0	4	1	1	0	0	1111
302	FIX, FASTEN, DETERMINE, SET	QBO*	V	3	0	0	1	1	13	1	0	0	0111
303	FLAG	DGL*	N	1	M	0	0	4	1	1	0	0	1111
304	FLAT-IRON	GH&*	N	1	M	0	0	4	12	1	0	0	0001
305	FLEE FROM	BRX*	V	5	0	5	1	1	4	1	0	0	1111
306	FLOOR	R&P*	N	1	F	0	0	4	1	1	0	0	1111
307	FLOUR	QMX*	N	1	M	0	0	4	1	1	7	0	1111
308	FLOWER	PRX*	N	1	M	0	0	4	1	1	0	0	1111
309	FLY	ZBB*	N	1	M	0	0	4	3	1	0	0	0001
310	FOLDER, FILE, BRIEF CASE	TYQ*	N	1	M	0	0	4	1	1	0	0	0111
311	FOOL	@PS*	A	1	0	0	0	4	5	1	0	0	0111
312	FOOL	@PS*	A	1	0	0	0	4	5	1	0	0	0111
313	FOOT, LEG	RGL*	N	1	F	0	0	4	1	1	12	0	1111
314	FORBIDDEN, PROHIBITED	ACR*	A	1	0	0	0	4	3	1	0	0	1111
315	FOREHEAD	M&X*	N	1	M	0	0	4	1	1	0	0	1111
316	FOREIGN	ZR**	A	1	0	0	0	4	1	1	0	0	1111
317	FOREST	YOR*	N	1	M	0	0	4	1	1	3	0	1111
318	FORGET	SKX*	V	3	0	0	1	1	13	1	0	0	1111
319	FORK	ZLG*	N	1	M	0	0	4	12	1	3	0	0111
320	FOR, TO	L***	P	1	0	1	0	6	1	1	0	0	1111
321	FOUNDATION, FUNDAMENT, ELEMENT,	YCD*	N	1	M	0	0	4	3	1	3	0	1111
322	FOURTH	RBOY	A	1	0	0	0	4	2	1	0	0	1111
323	FREEDOM, VACATION	XPS*	N	1	M	0	0	4	4	1	0	0	1111
324	FRESH	@RY*	A	1	0	0	0	4	1	1	0	0	0001
325	FRIEND	XBR*	N	1	M	0	0	4	1	1	0	0	1111
326	FRIEND	XBR*	N	1	F	0	0	4	1	1	0	0	1111
327	FRIEND	YDD*	N	1	M	0	0	4	2	1	0	0	1111
328	FROM	M***	P	4	0	4	0	6	1	1	0	0	1111
329	FRONTIER, BORDER, LIMIT	GBL*	N	1	M	0	0	4	3	1	3	0	1111
330	FRUIT	PRY*	N	1	M	0	0	4	27	1	3	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
331	FUTURE	OTD*	N	1	M	0	0	4	2	1	7	0	0111
332	GAME, PLAY	SXQ*	N	1	M	0	0	4	12	1	0	0	0111
333	GARDEN, PARK	GN**	N	1	M	0	0	4	1	1	0	0	1111
334	GARMENT	BGD*	N	1	M	0	0	4	1	1	0	0	1111
335	GET LOST	ABD*	V	2	0	0	1	1	13	1	0	0	1111
336	GET MARRIED	XTN*	V	2	0	0	1	1	6	1	0	0	0111
337	GET USED (TO)	RGL*	V	2	0	1	1	1	6	1	0	0	0111
338	GET (HOLD OF) ACHIEVE, OBTAIN	NSG*	V	3	0	0	1	1	7	1	0	0	1111
339	GIFT, PRESENT	MTN*	N	1	F	0	0	4	1	1	0	0	1111
340	GIRL	NOR*	N	1	F	0	0	4	1	1	0	0	1111
341	GIVE	NTN*	V	4	0	1	1	1	12	1	0	0	1111
342	GIVE	NTN*	V	4	0	1	1	1	12	1	0	0	1111
343	GIVE	NTN*	V	8	0	0	1	1	12	1	0	0	1111
344	GIVE	NTN*	V	4	0	1	1	1	12	1	0	0	1111
345	GLASS	ZKWK	N	1	F	0	0	4	31	1	0	1	1111
346	GO DOWN, DESCEND	YRD*	V	5	0	6	1	1	13	1	0	0	1111
347	GO OUT, COME OUT	Y&A*	V	2	0	0	1	1	12	1	0	0	1111
348	GOD	ALWH	N	1	M	0	0	4	34	1	9	0	1111
349	GOD	ALWH	N	1	M	0	0	4	34	1	0	0	1111
350	GODDESS	ALWH	N	1	F	0	0	4	34	1	0	1	1111
351	GOLD	ZHB*	N	1	M	0	0	4	1	1	0	0	1111
352	GOOD	ωWB*	A	1	0	0	0	4	1	1	0	0	1111
353	GOVERNMENT	MSL*	N	1	F	0	0	4	12	1	0	0	1111
354	GRACE	XN**	N	1	M	0	0	4	1	1	7	0	1111
355	GRAIN PRODUCE	BWA*	N	1	F	0	0	4	15	1	0	0	1111
356	GRANDPA (FAMILIAR STYLE)	CBA*	N	3	M	0	0	4	1	1	7	0	1111
357	GRANDMA (FAMILIAR STYLE)	CBTA	N	3	F	0	0	4	1	1	0	0	0001
358	GRANDCHILD	NKD*	N	1	M	0	0	4	1	1	0	0	1111
359	GRAPE	ONB*	N	1	M	0	0	4	1	1	0	0	1111
360	GRAPEFRUIT	SKLY	N	1	F	0	0	4	8	1	0	1	0001

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
361	GRATUITOUSLY, FREELY	XNM*	D	3	0	0	0	4	5	1	7	0	1111
362	GREEN	YRQ*	A	1	0	0	0	4	3	1	0	0	1111
363	GREETING, REGARDS, BLESSING	BRK*	N	1	F	0	0	4	1	1	0	0	1111
364	GREET	BRK*	V	3	0	0	1	1	4	1	0	0	1111
365	GREY HAIR, OLD AGE	SYB*	N	1	F	0	0	4	1	1	0	0	1111
366	GROCERY STORE	KWL*	N	1	F	0	0	4	12	1	8	1	1111
367	GROVE	XRS*	N	1	F	0	0	4	4	1	0	0	0001
368	GUARD'S WATCH, POST	SMR*	N	1	M	0	0	4	12	1	3	0	1111
369	GUARD'S WATCH, POST	SMR*	N	1	M	0	0	4	12	1	0	0	1111
370	GUARD, KEEP	SMR*	V	5	0	7	1	1	12	1	0	0	1111
371	HAIR	SOR*	N	1	M	0	0	4	1	1	7	0	1111
372	HAMMER	PQS*	N	1	M	0	0	4	2	1	0	0	1111
373	HAND IN, TURN OVER, TRANSMIT	MCR*	V	4	0	1	1	1	14	1	0	0	0111
374	HAND	YD**	N	1	F	0	0	4	1	1	12	0	1111
375	HANDBAG, PURSE, BILLFOLD, COINHO	ARNQ	N	1	M	0	0	4	7	1	0	0	0001
376	HANDKERCHIEF	MXQ*	N	1	F	0	0	4	12	1	0	0	0001
377	HANG	TLH*	V	3	0	0	1	1	14	1	0	0	1111
378	HAPPY	AWSR	A	1	0	0	0	4	12	1	0	0	0111
379	HAPPY	SMX*	A	1	0	0	0	4	1	1	0	0	1111
380	HARBOR, PORT	NML*	N	1	M	0	0	4	1	1	0	0	0111
381	HARD, DIFFICULT, SEVERE	QSH*	A	1	0	0	0	4	1	1	0	0	1111
382	HATE	SNA*	V	3	0	0	1	1	13	1	0	0	1111
383	HE	HWA*	R	2	M	0	0	5	1	1	0	0	1111
384	HEAD, CHIEF, TOP	RAS*	N	1	M	0	0	4	35	1	0	0	1111
385	HEAR	SMO*	V	3	0	0	1	1	13	1	0	0	1111
386	HEART	LB**	N	1	M	0	0	4	1	1	3	0	1111
387	HEART	LB**	N	1	M	0	0	4	28	1	0	0	1111
388	HEAT, FEVER	XWM*	N	1	M	0	0	4	1	1	7	0	0111
389	HEAVEN, SKY	SM**	N	1	M	0	0	4	1	1	11	0	1111
390	HEAVY, WEIGHTY	KBD*	A	1	0	0	0	4	1	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
391	HEBREW LANGUAGE	ORR*	N	1	F	0	0	4	19	1	7	1	0111
392	HELLO, GOOD BYE, PEACE	SLM*	N	1	M	0	0	4	3	1	0	0	1111
393	HELLO, GOOD BYE, PEACE	SLM*	N	1	M	0	0	4	3	1	3	0	1111
394	HELP	OZR*	V	5	0	1	1	1	14	1	0	0	1111
395	HELP, AID	OZR*	N	1	F	0	0	4	1	1	0	0	1111
396	HERE	HNH*	D	2	0	0	0	4	1	1	0	0	1111
397	HERE	KAN*	D	2	0	0	0	4	1	1	0	0	0111
398	HERE	PH**	D	2	0	0	0	4	1	1	0	0	1111
399	HERO, STRONG MAN	GBR*	N	1	M	0	0	4	6	1	0	0	1111
400	HIGH	GBH*	A	1	0	0	0	4	3	1	0	0	1111
401	HILL	GBO*	N	1	F	0	0	4	1	1	0	0	1111
402	HIP	MTN*	N	1	M	0	0	4	4	1	14	0	1111
403	HIT, IMPAIR	PGO*	V	5	0	2	1	1	13	1	0	0	1111
404	HOARSE	&RD*	A	1	0	0	0	4	3	1	0	0	0111
405	HOE	ODR*	N	1	M	0	0	4	12	1	0	0	0111
406	HOLE	XWR*	N	1	M	0	0	4	1	1	0	0	1111
407	HOLY, SAINT, SACRED	QDS*	A	1	0	0	0	4	3	1	0	0	1111
408	HONEY	DBS*	N	1	M	0	0	4	1	1	7	0	1111
409	HONOR, RESPECT	KBD*	N	1	M	0	0	4	3	1	7	0	1111
410	HOPE	QWH*	N	1	F	0	0	4	15	1	0	0	1111
411	HOPE FOR	QWH*	V	5	0	1	1	1	4	1	0	0	1111
412	HORSE	CWC*	N	1	M	0	0	4	1	1	0	0	1111
413	HOSE, PIPE	&NR*	N	1	M	0	0	4	6	1	3	0	1111
414	HOTEL	LWN*	N	1	M	0	0	4	12	1	3	0	1111
415	HOTEL	LWN*	N	1	M	0	0	4	12	1	0	0	1111
416	HOT, WARM	XM**	A	1	0	0	0	4	1	1	0	0	0001
417	HOUR	SOH*	N	1	F	0	0	4	1	1	0	0	1111
418	HOUSE	BYT*	N	1	M	0	0	4	29	1	0	0	1111
419	HOW	AK**	Q	2	0	0	0	4	5	1	0	0	1111
420	HUMAN BEING, MAN	ADM*	N	1	M	0	0	4	1	1	7	0	1111

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
421	HUNDRED	MAH*	B	5	0	0	0	4	1	1	0	0	1111
422	HUNGRY	ROB*	A	1	0	0	0	4	1	1	0	0	1111
423	HURRY, HASTEN	MHR*	V	2	0	0	1	1	4	1	0	0	1111
424	HURRY, HASTEN	MHR*	V	3	0	0	1	1	4	1	0	0	1111
425	HUSBAND, OWNER	BOL*	N	1	M	0	0	4	1	1	0	0	1111
426	I	ANY*	R	2	M	0	0	5	1	1	0	0	1111
427	I	ANY*	R	2	F	0	0	5	1	1	0	0	1111
428	ICE	QRX*	N	1	M	0	0	4	1	1	7	0	1111
429	IF	ALW*	U	7	0	0	0	7	5	1	0	0	1111
430	IF, WHETHER	AM**	C	6	0	0	0	7	1	1	0	0	1111
431	ILL	XLH*	A	1	0	0	0	4	4	1	0	0	1111
432	IMAGE, PICTURE	MWN*	N	1	F	0	0	4	15	1	0	0	1111
433	IMMEDIATELY, AT ONCE	MYD*	D	3	0	0	0	4	2	1	0	0	0111
434	IMPORTANT	XSB*	A	1	0	0	0	4	4	1	0	0	0111
435	IMPRESSION	RSM*	N	1	M	0	0	4	4	1	0	0	1111
436	IMPRISONED	ACR*	N	1	M	0	0	4	3	1	0	0	1111
437	IN ORDER	KDY*	C	5	0	0	0	7	1	1	0	0	1111
438	IN PAYMENT OF, FOR, THROUGH	BOD*	P	13	0	13	0	6	1	1	0	0	1111
439	IN VIEW OF, BECAUSE OF	MPNY	P	13	0	13	0	6	1	1	0	0	1111
440	INDIVIDUAL, PERSONAL, PRIVATE	PRQY	A	1	0	0	0	4	1	1	0	0	0001
441	INDUSTRY, MANUFACTURE	TOS*	N	1	F	0	0	4	16	1	0	0	0001
442	INFORMATION, NEWS, MESSAGE	YDO*	N	1	F	0	0	4	2	1	0	0	1111
443	INFORM	YDO*	V	4	0	1	1	1	7	1	0	0	1111
444	INK	DYW*	N	1	M	0	0	4	1	1	7	0	1111
445	INK	DYW*	N	1	F	0	0	4	1	1	7	0	1111
446	INSIDE OF, WITHIN	BTWK	P	2	0	2	0	6	1	1	0	0	1111
447	INSIDE, INTERNAL AFFAIRS	PNYM	N	1	M	0	0	4	1	1	7	0	0001
448	INSTRUMENT, TOOL, UTENSIL	KSR*	N	1	M	0	0	4	13	1	0	0	0111
449	INTELLECT, MIND	SKL*	N	1	M	0	0	4	1	1	0	0	1111
450	INVITE, CALL TO COME, ORDER	ZMN*	V	3	0	0	1	1	7	1	0	0	0111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
451	IN, AT, WITH, BY	B***	P	2	0	2	0	6	1	1	0	0	1111
452	IRON	BRZL	N	1	M	0	0	4	1	1	0	0	1111
453	JACKET, COAT	NOL*	N	1	M	0	0	4	2	1	0	0	1111
454	JAM	RB**	N	1	F	0	0	4	5	1	0	0	0011
455	JEWISH	YHDY	A	1	0	0	0	4	3	1	0	0	1111
456	JOY, FESTIVE OCCASION	SMX*	N	1	F	0	0	4	1	1	0	0	1111
457	JUDGE	SP@*	N	1	M	0	0	4	4	1	0	0	1111
458	JUMP, LEAP	QP&*	V	2	0	0	1	1	14	1	0	0	0111
459	KEROSENE, OIL	NP@*	N	1	M	0	0	4	1	1	7	0	0111
460	KEY	PTX*	N	1	M	0	0	4	12	1	3	0	1111
461	KILL	HRG*	V	3	0	0	1	1	14	1	0	0	1111
462	KIND, SORT, SPECIES, SEX, GENDER	MYN*	N	1	M	0	0	4	1	1	0	0	1111
463	KIND, AMIABLE, LIKE	XBB*	A	1	0	0	0	4	2	1	0	0	0111
464	KING	MLK*	N	1	M	0	0	4	1	1	0	0	1111
465	KISS	NSQ*	N	1	F	0	0	4	2	1	0	0	1111
466	KITCHEN	@BX*	N	1	M	0	0	4	12	1	0	0	0001
467	KNIFE	CKN*	N	1	M	0	0	4	2	1	0	0	0111
468	KNIFE	CKN*	N	1	F	0	0	4	2	1	6	0	0111
469	KNOW	YDO*	V	3	0	0	1	1	13	1	0	0	1111
470	LABORER, WORKER	POL*	N	1	M	0	0	4	4	1	0	0	0111
471	LADDER	CLM*	N	1	M	0	0	4	4	1	3	0	0111
472	LADDER	CLM*	N	1	M	0	0	4	4	1	0	0	0111
473	LAMP	NWR*	N	1	F	0	0	4	12	1	0	0	1111
474	LANGUAGE	SPH*	N	1	F	0	0	4	1	1	0	0	1111
475	LAST	AXR*	A	1	0	0	0	4	23	1	0	0	1111
476	LATE	AWXR	D	1	0	0	0	4	12	1	0	0	0111
477	LATE, DELAYED	AWXR	A	1	0	0	0	4	12	1	0	0	0111
478	LAUGHTER, HUMOR, UNSERIOUS BUSIN	&XQ*	N	1	M	0	0	4	3	1	7	0	1111
479	LAUGH	&XQ*	V	2	0	0	1	1	13	1	0	0	1111
480	LAW	XQ**	N	1	M	0	0	4	4	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
481	LAZY	O&L*	A	1	0	0	0	4	1	1	0	0	1111
482	LEARN	LMD*	V	3	0	0	1	1	13	1	0	0	1111
483	LEAVE, ABANDON, DESERT	OZB*	V	3	0	0	1	1	14	1	0	0	1111
484	LEAVE	SAR*	V	4	0	1	1	1	7	1	0	0	1111
485	LEFT SIDE	SMAL	N	1	M	0	0	4	1	1	7	0	1111
486	LESS	PXT*	D	4	0	0	0	4	3	1	0	0	0111
487	LESSON	SOR*	N	1	M	0	0	4	6	1	0	0	0111
488	LETTER	AWT*	N	1	F	0	0	4	1	1	0	1	1111
489	LETTER, NOTE	KTB*	N	1	M	0	0	4	12	1	0	0	1111
490	LIBRARY	CPR*	N	1	F	0	0	4	19	1	0	0	0001
491	LIE	SKB*	V	5	0	7	1	1	13	1	0	0	1111
492	LIE	SQR*	N	1	M	0	0	4	1	1	0	0	1111
493	LIE	SGR*	V	3	0	0	1	1	4	1	0	0	1111
494	LIEN, KNOT, ATTACHMENT, MUTINY	QSR*	N	1	M	0	0	4	1	1	0	0	1111
495	LIFE	XYYM	N	1	M	0	0	4	1	1	9	0	1111
496	LIGHT	AWR*	N	1	M	0	0	4	4	1	0	0	1111
497	LIGHT	AWR*	N	1	M	0	0	4	4	1	3	0	1111
498	LIGHT, KINDLE, TURN ON	DLQ*	V	3	0	0	1	1	7	1	0	0	1111
499	LIGHT, EASY, SWIFT	QL**	A	1	0	0	0	4	1	1	0	0	1111
500	LIKE	KMW*	D	3	0	0	0	6	38	1	0	0	1111
501	LINE, ROUTE	QW**	N	1	M	0	0	4	1	1	0	0	1111
502	LINE, ROW, SERIES	SWR*	N	1	F	0	0	4	1	1	0	0	1111
503	LINE, ONE'S TURN, WAITING LIST	TWR*	N	1	M	0	0	4	1	1	0	0	1111
504	LIP	SPH*	N	1	F	0	0	4	1	1	14	0	1111
505	LIST	RSM*	N	1	F	0	0	4	2	1	0	0	0001
506	LISTEN TO	QSB*	V	5	0	1	1	1	7	1	0	0	1111
507	LISTEN TO	QSB*	V	2	0	0	1	1	7	1	0	0	1111
508	LITERATURE	CPRW	N	1	F	0	0	4	1	1	0	1	0001
509	LITTLE, FEW	MOQ*	D	4	0	0	0	4	1	1	0	0	1111
510	LITTLE NOT, SLIP (OF PAPER)	PTQ*	N	1	M	0	0	4	1	1	0	0	0111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
511	LIVE AT	GWR*	V	5	0	2	1	1	14	1	0	0	1111
512	LIVING, VIVID, ALIVE	XY**	A	1	0	0	0	4	1	1	0	0	1111
513	LONG	ARK*	A	1	0	0	0	4	3	1	0	0	1111
514	LOOK AT	NB@*	V	5	0	2	1	1	7	1	0	0	1111
515	LOSE	PCD*	V	3	0	0	1	1	7	1	0	0	0111
516	LOT, PLOT (OF LAND)	GRS*	N	1	M	0	0	4	12	1	0	0	1111
517	LOVE TO--, LIKE TO--	AHB*	V	6	0	0	1	1	12	1	0	0	1111
518	LOVE, AMOUR	AHB*	N	1	F	0	0	4	1	1	0	0	1111
519	LOVE, LIKE	AHB*	V	3	0	0	1	1	12	1	0	0	1111
520	LOW	NMK*	A	1	0	0	0	4	3	1	0	0	0111
521	LUCK	MZL*	N	3	F	0	0	4	1	1	0	0	0011
522	LUCK, PLANET, FATE	MZL*	N	1	M	0	0	4	1	1	3	0	0111
523	MACHINE	MKN*	N	1	F	0	0	4	3	1	0	0	0001
524	MAJORITY, MOST	RB**	N	1	M	0	0	4	4	1	0	0	1111
525	MAKE ANGRY, ENRAGE, ANNOY	RGZ*	V	3	0	0	1	1	7	1	0	0	1111
526	MAKE USE OF, USE	SMS*	V	5	0	2	1	1	6	1	0	0	1111
527	MAN, PERSON	AYNS	N	1	M	0	0	4	24	1	0	0	1111
528	MARKET, BAZAAR	SWQ*	N	1	M	0	0	4	1	1	0	0	1111
529	MARRIED	NSY*	A	1	0	0	0	4	3	1	0	0	0111
530	MASTER, SIR, MISTER	ADN*	N	1	M	0	0	4	3	1	0	0	1111
531	MATCH	GPRR	N	1	M	0	0	4	41	1	0	0	0001
532	MATTER, AFFAIR	ONYN	N	1	M	0	0	4	1	1	0	0	1111
533	MEASURE	MD**	N	1	F	0	0	4	5	1	0	0	1111
534	MEAT	BSR*	N	1	M	0	0	4	1	1	0	0	1111
535	MEET	PGS*	V	3	0	0	1	1	14	1	0	0	1111
536	MEMORY, COMMEMORATION	ZKR*	N	1	M	0	0	4	1	1	7	0	1111
537	MENTION	ZKR*	V	3	0	0	1	1	7	1	0	0	1111
538	MERCHANDISE	CXR*	N	1	F	0	0	4	3	1	0	0	1111
539	MERCHANT, DEALER	CXR*	N	1	M	0	0	4	4	1	0	0	1111
540	METAL	MTK*	N	1	F	0	0	4	1	1	0	1	0111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
541	MIDDLE	AM&O	N	1	M	0	0	4	1	1	0	0	0111
542	MILK	XLB*	N	1	M	0	0	4	1	1	0	0	1111
543	MINISTER (OF STATE)	SR**	N	1	M	0	0	4	1	1	0	0	0001
544	MINUTE	DQH*	N	1	F	0	0	4	1	1	0	0	0111
545	MIRROR	RAH*	N	1	F	0	0	4	12	1	0	0	1111
546	MIRROR	RAH*	N	1	F	0	0	4	12	1	0	0	1111
547	MISERABLE, PITIABLE, POOR	CKN*	A	1	0	0	0	4	12	1	0	0	0001
548	MISFORTUNE, ACCIDENT	ACN*	N	1	M	0	0	4	3	1	3	0	1111
549	MISSING, WANTING	XCR*	A	1	0	0	0	4	1	1	0	0	1111
550	MISS, MRS.	GBR*	N	1	F	0	0	4	1	1	0	1	1111
551	MISTAKE, ERROR	@OH*	N	1	F	0	0	4	3	1	0	1	0111
552	MISTAKE, ERROR	SGH*	N	1	F	0	0	4	2	1	0	0	1111
553	MOM	AMA*	N	3	F	0	0	4	1	1	8	0	0001
554	MOMENT, MINUTE	RGO*	N	1	M	0	0	4	1	1	0	0	1111
555	MONEY, SILVER	KCP*	N	1	M	0	0	4	1	1	0	0	1111
556	MONTH	XDS*	N	1	M	0	0	4	4	1	0	0	1111
557	MOON	YRX*	N	1	M	0	0	4	1	1	0	0	1111
558	MORE	YTR*	D	4	0	0	0	4	4	1	0	0	1111
559	MORNING	BQR*	N	1	M	0	0	4	4	1	0	0	1111
560	MOTHER	AMH*	N	1	F	0	0	4	34	1	0	0	1111
561	MOUNTAIN	HR**	N	1	M	0	0	4	1	1	0	0	1111
562	MOUTH	PYYH	N	1	M	0	0	4	28	1	3	0	1111
563	MOVEMENT, VOWEL	NWO*	N	1	F	0	0	4	15	1	0	0	0001
564	MOVIE FILM, RIBBON	CR@*	N	1	M	0	0	4	1	1	0	0	0111
565	MR.	MR**	N	1	M	0	0	4	1	1	0	0	0111
566	MUCH, MANY	RB**	A	1	0	0	0	4	1	1	0	0	1111
567	NAIL (NOT OF THE FINGER OR TOE)	CMR*	N	1	M	0	0	4	12	1	0	0	1111
568	NAME	SM**	N	1	M	0	0	4	1	1	3	0	1111
569	NARROW	&R**	A	1	0	0	0	4	1	1	0	0	1111
570	NATION, PEOPLE	OM**	N	1	M	0	0	4	1	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
571	NATURE	WBO*	N	1	M	0	0	4	1	1	0	0	1111
572	NEAR, CLOSE, RELATED, RELATIVE	QRB*	A	1	0	0	0	4	3	1	0	0	1111
573	NECESSARY, REQUIRED	NX&*	A	1	0	0	0	4	3	1	0	0	1111
574	NECK	&WAR	N	1	M	0	0	4	1	1	0	0	1111
575	NEEDING, MUST, NECESSARY	&RK*	A	1	0	0	0	4	2	1	0	0	0111
576	NEEDLE	MX@*	N	1	M	0	0	4	1	1	0	0	0111
577	NEED, NECESSITY	&RK*	N	1	M	0	0	4	4	1	0	0	0111
578	NEIGHBOR	SKN*	N	1	M	0	0	4	1	1	0	0	1111
579	NEIGHBORING	SKN*	A	1	0	0	0	4	1	1	0	0	1111
580	NEWS	XDS*	N	1	F	0	0	4	1	1	0	0	1111
581	NEWSPAPER, JOURNAL	OTN*	N	1	M	0	0	4	6	1	0	0	0001
582	NEW, FRESH	XDS*	A	1	0	0	0	4	1	1	0	0	1111
583	NICE, PRETTY	XMD*	A	1	0	0	0	4	18	1	0	0	0011
584	NICE, FINE	YPH*	A	1	0	0	0	4	1	1	0	0	1111
585	NIGHT	LYL*	N	1	F	0	0	4	1	1	0	0	1111
586	NINE	TSO*	B	3	F	0	0	4	1	1	0	0	1111
587	NOISE	ROS*	N	1	M	0	0	4	1	1	0	0	1111
588	NOON	&WHR	N	1	M	0	0	4	1	1	11	0	1111
589	NORTH	&PN*	N	1	M	0	0	4	3	1	7	0	1111
590	NOSE	AP**	N	1	M	0	0	4	1	1	0	0	1111
591	NOSTRIL	NXR*	N	1	M	0	0	4	2	1	14	0	0111
592	NOTEBOOK	PNQC	N	1	M	0	0	4	1	1	0	0	0111
593	NOW	OKSW	D	1	0	0	0	4	42	1	0	0	0111
594	NO, NOT	LWA*	L	1	0	0	0	7	1	1	0	0	1111
595	NO(ONE)	SWM*	N	1	0	0	0	4	4	1	0	0	0111
596	NUMBER	CPR*	N	1	M	0	0	4	12	1	0	0	1111
597	OBJECT	O&M*	N	1	M	0	0	4	1	1	0	0	1111
598	OCCUR, HAPPEN	QRH*	V	2	0	0	1	1	14	1	0	0	1111
599	OCCURRENCE, INCIDENT, CASE	QRH*	N	1	M	0	0	4	12	1	0	0	1111
600	OF COURSE	KMBN	D	3	0	0	0	4	3	1	0	0	0011

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
601	OFFICE, BUREAU	SRD*	N	1	M	0	0	4	12	1	0	0	0001
602	OF, BELONGING TO	SL**	U	1	0	0	0	7	1	1	0	0	1111
603	O.K., ALL RIGHT	BCDR	N	1	0	0	0	4	1	1	7	0	0001
604	OIL, OLIVE OIL	SMN*	N	1	M	0	0	4	1	1	0	0	1111
605	OLD (OF AGE)	ZQN*	A	1	0	0	0	4	1	1	0	0	1111
606	OLD, ANCIENT	YSN*	A	1	0	0	0	4	1	1	0	0	1111
607	OLIVE	ZYT*	N	1	M	0	0	4	1	1	0	0	1111
608	ON	OL**	P	7	0	7	0	6	1	1	0	0	1111
609	ONCE	POM*	D	1	0	0	0	4	1	1	0	0	1111
610	ONE	AXD*	B	1	F	0	0	4	39	1	0	1	1111
611	ONE	AXD*	B	1	M	0	0	4	39	1	0	0	1111
612	ONLY THUS, EXACTLY	DWQA	D	3	0	0	0	4	4	1	0	0	0111
613	ONLY, MERELY	RQ**	D	4	0	0	0	4	1	1	0	0	1111
614	OPEN	PTX*	V	3	0	0	1	1	13	1	0	0	1111
615	OR	AW**	C	2	0	0	0	7	1	1	0	0	1111
616	ORANGE	TPWZ	N	1	M	0	0	4	1	1	0	0	1111
617	ORCHESTRA	ZMR*	N	1	F	0	0	4	17	1	0	1	0001
618	OTHER	AXR*	A	1	0	0	0	4	1	1	0	0	1111
619	OUT OF, FROM WITHIN	TWK*	P	13	0	13	0	6	12	1	0	0	0111
620	OUTSIDE	HX&H	D	2	0	0	0	4	3	1	0	0	1111
621	OVERCOME	N&X*	V	3	0	0	1	1	4	1	0	0	1111
622	OX	SWR*	N	1	M	0	0	4	1	1	0	0	1111
623	PACKAGE, PARCEL	XBL*	N	1	F	0	0	4	2	1	0	0	0111
624	PAGE, STAND, PILLAR	OMD*	N	1	M	0	0	4	3	1	0	0	1111
625	PAIN, ACHE	KAB*	N	1	M	0	0	4	1	1	0	0	1111
626	PAIR, COUPLE	ZWG*	N	1	M	0	0	4	1	1	3	0	1111
627	PALM, SOLE	KP**	N	1	F	0	0	4	1	1	12	0	1111
628	PAPER, DOCUMENT	NYR*	N	1	M	0	0	4	2	1	3	0	0111
629	PARDON ME, FORGIVENESS	CLX*	N	1	F	0	0	4	2	1	0	0	1111
630	PARENTS	HRH*	N	1	M	0	0	4	4	1	9	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
631	PARTICIPATE IN	STP*	V	2	0	0	1	1	6	1	0	0	0111
632	PARTY (=SOCIAL GATHERING)	MCB*	N	1	F	0	0	4	2	1	0	0	0111
633	PART, SHARE	XLQ*	N	1	M	0	0	4	1	1	0	0	1111
634	PASS BY, EXCEED, PASS	OBR*	V	5	0	0	1	1	14	1	0	0	1111
635	PASSOVER	PCX*	N	3	M	0	0	4	1	1	7	0	0111
636	PATTERN, MODEL	DGM*	N	1	F	0	0	4	4	1	0	0	0001
637	PAY	SLM*	V	4	0	1	1	1	4	1	0	0	1111
638	PAYMENT	SLM*	N	1	M	0	0	4	17	1	0	0	0111
639	PEN	OQ**	N	1	M	0	0	4	1	1	0	0	1111
640	PENCIL	OPR*	N	1	M	0	0	4	23	1	3	0	0001
641	PERHAPS, MAYBE	AWLY	D	3	0	0	0	4	1	1	0	0	1111
642	PERMISSION	RSH*	N	1	F	0	0	4	3	1	0	1	1111
643	PERMIT, GIVE PERMISSION (TO)	RSH*	V	4	0	1	1	1	7	1	0	0	0111
644	PERSONAL NAME	NOM*	N	3	M	0	0	4	2	1	0	0	0011
645	PERSONAL NAME	NTN*	N	3	M	0	0	4	1	1	0	0	1111
646	PERSONAL NAME	ONN*	N	3	M	0	0	4	1	1	7	0	0111
647	PERSONAL NAME	&MX*	N	3	M	0	0	4	1	1	7	0	0001
648	PERSONAL NAME	QWL*	N	3	M	0	0	4	1	1	0	0	0001
649	PERSONAL NAME	RPA*	N	3	M	0	0	4	4	1	7	0	0011
650	PERSONAL NAME	SLM*	N	3	M	0	0	4	3	1	0	0	0011
651	PERSONAL NAME	YNH*	N	3	M	0	0	4	4	1	0	0	1111
652	PERSONAL NAME	YNH*	N	3	F	0	0	4	4	1	0	0	1111
653	PERSONAL NAME	YPH*	N	3	F	0	0	4	1	1	0	0	0011
654	PERSONAL NAME	ABN*	N	3	M	0	0	4	1	1	7	0	0001
655	PERSONAL NAME	NWX*	N	3	M	0	0	4	1	1	0	0	1111
656	PERSONAL NAME	SMX*	N	3	F	0	0	4	1	1	0	0	1111
657	PERSONAL NAME	XYYM	N	3	M	0	0	4	1	1	0	0	1111
658	PERSONAL NAME	NGR*	N	3	M	0	0	4	1	1	7	0	0011
659	PERSONAL NAME	OMQ*	N	3	M	0	0	4	1	1	0	0	0001
660	PERSONAL NAME	SDH*	N	3	M	0	0	4	1	1	0	0	0001

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
661	PERSONAL NAME	NSA*	N	3	M	0	0	4	1	1	0	0	0011
662	PHYSICIAN	RPA*	N	1	M	0	0	4	4	1	0	0	1111
663	PIASTER, A COIN	GRS*	N	1	M	0	0	4	3	1	0	0	0001
664	PIECE OF FURNITURE	RH@*	N	1	M	0	0	4	2	1	0	0	1111
665	PIGEON, DOVE	YNH*	N	1	F	0	0	4	4	1	0	0	1111
666	PILLOW	KR**	N	1	M	0	0	4	1	1	0	0	1111
667	PIN, BROOCH	CYK*	N	1	F	0	0	4	1	1	0	0	0001
668	PISTOL	QDX*	N	1	M	0	0	4	7	1	0	0	0001
669	PLACE NAME	&MX*	N	2	M	0	0	4	1	1	0	0	0001
670	PLACE, SPACE	QWM*	N	1	M	0	0	4	12	1	3	0	1111
671	PLANT	&MX*	N	1	M	0	0	4	1	1	0	0	1111
672	PLATE, DISH	&LX*	N	1	F	0	0	4	1	1	0	1	0111
673	PLAY (A MUSICAL INSTRUMENT)	NGN*	V	3	0	0	1	1	4	1	0	0	1111
674	PLAY (MUSICAL INSTRUMENT)	NGN*	V	5	0	7	1	1	4	1	0	0	1111
675	PLAY (MUSICAL INSTRUMENT)	NGN*	V	5	0	2	1	1	4	1	0	0	1111
676	PLAY (GAMES) WITH (SOMEONE)	SXQ*	V	4	0	8	1	1	4	1	0	0	1111
677	PLAY WITH (TOYS)	SXQ*	V	5	0	2	1	1	4	1	0	0	1111
678	PLEASANT	NOM*	A	1	0	0	0	4	2	1	0	0	1111
679	PLEASURE	ONG*	N	1	M	0	0	4	17	1	0	0	1111
680	PLEASURE	ONG*	N	1	M	0	0	4	17	1	3	0	1111
681	POCKET	KYC*	N	1	M	0	0	4	1	1	0	0	1111
682	POET	SWRR	N	1	M	0	0	4	12	1	0	0	1111
683	POINT OF VIEW	DO**	N	1	F	0	0	4	1	1	0	0	1111
684	POINT, PERIOD	NQD*	N	1	F	0	0	4	3	1	0	0	1111
685	POLICEMAN	S@R*	N	1	M	0	0	4	4	1	0	0	1111
686	POLICE	S@R*	N	1	F	0	0	4	12	1	0	0	0001
687	POOR	ONY*	A	1	0	0	0	4	1	1	0	0	1111
688	PORRIDGE, MEDLEY	DYC*	N	1	F	0	0	4	5	1	0	0	0001
689	POSITION	SRH*	N	1	F	0	0	4	12	1	0	0	1111
690	POSSIBLE, PERHAPS	APSR	D	3	0	0	0	4	1	1	0	0	0111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
691	POT	CYR*	N	1	M	0	0	4	1	1	0	0	1111
692	POUND (MONEY)	LYRH	N	1	F	0	0	4	1	1	0	0	0001
693	POWER, FORCE	KWX*	N	1	M	0	0	4	1	1	3	0	1111
694	PRAY	PLL*	V	2	0	0	1	1	6	1	0	0	1111
695	PREPARE (ONESELF)	KWN*	V	2	0	0	1	1	10	1	0	0	1111
696	PRESIDENT	NSA*	N	1	M	0	0	4	2	1	0	0	1111
697	PRICE	MXR*	N	1	M	0	0	4	2	1	0	0	1111
698	PROGRESS, GET ON	QDM*	V	2	0	0	1	1	6	1	0	0	1111
699	PROGRAM, PLAN, PROJECT	TKNY	N	1	F	0	0	4	4	1	0	1	1111
700	PROPER NAME	CBA*	N	3	M	0	0	4	1	1	0	0	0001
701	PRUDENT, CAREFUL	ZHR*	A	1	0	0	0	4	2	1	0	0	0111
702	PUBLIC, AUDIENCE	QHL*	N	1	M	0	0	4	1	1	7	0	1111
703	PUPIL, STUDENT	LMD*	N	1	F	0	0	4	16	1	0	0	0111
704	PUPIL, STUDENT	LMD*	N	1	M	0	0	4	16	1	0	0	0111
705	PURE	QHR*	A	1	0	0	0	4	3	1	0	0	1111
706	PUT	SYM*	V	4	0	7	1	1	14	1	0	0	1111
707	PUT ON, WEAR	LBS*	V	3	0	0	1	1	13	1	0	0	1111
708	QUALIFIED, FIT, KOSHER	KSR*	A	1	0	0	0	4	1	1	0	0	0111
709	QUARTER	RBO*	N	1	M	0	0	4	1	1	0	0	1111
710	QUESTION	SAL*	N	1	F	0	0	4	1	1	0	0	1111
711	QUICKLY, FAST	MHR*	D	3	0	0	0	4	1	1	0	0	1111
712	QUIET, CALM	SQQ*	A	1	0	0	0	4	1	1	0	0	1111
713	QUIET	SQQ*	N	1	M	0	0	4	1	1	7	0	1111
714	RAIN	GSM*	N	1	M	0	0	4	1	1	0	0	1111
715	RATHER	DY**	D	4	0	0	0	4	1	1	0	0	1111
716	READ	QRA*	V	3	0	0	1	1	13	1	0	0	1111
717	REASON, CAUSE	CB**	N	1	F	0	0	4	5	1	0	0	1111
718	RECEPTACLE, DISH, INSTRUMENT, VE	KLY*	N	1	M	0	0	4	36	1	0	0	1111
719	RED	ADM*	A	1	0	0	0	4	3	1	0	0	1111
720	REGULAR, HABITUAL	RGL*	A	1	0	0	0	4	2	1	0	0	0111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
721	RELATE, TELL	CPR*	V	4	0	1	1	1	4	1	0	0	1111
722	REMEMBER	ZKR*	V	3	0	0	1	1	14	1	0	0	1111
723	REMIND	ZKR*	V	4	0	1	1	1	7	1	0	0	1111
724	REPAIR, CORRECT, AMEND	TQN*	V	3	0	0	1	1	4	1	0	0	1111
725	REPEAT	XZR*	V	5	0	7	1	1	14	1	0	0	0111
726	REPORT	MCR*	V	4	0	7	1	1	14	1	0	0	0111
727	REQUIRE, DEMAND	DRS*	V	3	0	0	1	1	14	1	0	0	1111
728	RESIDENTIAL QUARTER	SKN*	N	1	F	0	0	4	3	1	0	0	0011
729	RESPONSIBLE	AXRA	A	1	0	0	0	4	19	1	0	0	0111
730	REST	NWX*	N	1	F	0	0	4	12	1	0	0	1111
731	REST	NWX*	V	2	0	0	1	1	14	1	0	0	1111
732	REST	YTR*	N	1	M	0	0	4	1	1	0	0	1111
733	RESTAURANT	COD*	N	1	F	0	0	4	12	1	0	0	0001
734	RESTORE, RETURN (SOMETHING)	XZR*	V	4	0	1	1	1	7	1	0	0	1111
735	RETURN	SWB*	V	5	0	6	1	1	14	1	0	0	1111
736	REVERSE, CONVERT, OVERTURN	HPK*	V	3	0	0	1	1	14	1	0	0	1111
737	RICH	OSR*	A	1	0	0	0	4	2	1	0	0	1111
738	RIDE	RKB*	V	5	0	7	1	1	13	1	0	0	1111
739	RIFLE	RBH*	N	1	M	0	0	4	4	1	0	0	0111
740	RIGHT, CORRECT	KWN*	A	1	0	0	0	4	18	1	0	0	1111
741	RIGHTEOUS, PIOUS	&DQ*	A	1	0	0	0	4	2	1	0	0	1111
742	RIGHT, CREDIT, PRIVILEGE	ZKH*	N	1	F	0	0	4	3	1	0	1	0111
743	RING	@BO*	N	1	F	0	0	4	1	1	0	1	1111
744	RING (SOMEONE) (ON THE PHONE)	&L&L	V	5	0	1	1	1	4	1	0	0	0111
745	RING	&L&L	V	5	0	2	1	1	4	1	0	0	0111
746	RIVER	NHR*	N	1	M	0	0	4	1	1	3	0	1111
747	ROOF	GG**	N	1	M	0	0	4	1	1	3	0	1111
748	ROOF	GG**	N	1	M	0	0	4	1	1	0	0	1111
749	ROOM	XDR*	N	1	M	0	0	4	1	1	0	0	1111
750	ROOT	SRS*	N	1	M	0	0	4	4	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
751	ROPE	XBL*	N	1	M	0	0	4	1	1	0	0	1111
752	ROUND ABOUT, AROUND	CBB*	D	2	0	0	0	4	2	1	0	0	1111
753	ROUND	OGL*	A	1	0	0	0	4	3	1	0	0	1111
754	RUN	RW&*	V	5	0	6	1	1	14	1	0	0	1111
755	RUN	RW&*	V	5	0	12	1	1	14	1	0	0	1111
756	SABBATH, SATURDAY	SBT*	N	1	F	0	0	4	1	1	0	1	1111
757	SAD	O&B*	A	1	0	0	0	4	3	1	0	0	1111
758	SALT	MLX*	N	1	M	0	0	4	1	1	0	0	1111
759	SAND	XWL*	N	1	M	0	0	4	1	1	3	0	1111
760	SAVE (FROM A DANGER)	N&L*	V	3	0	0	1	1	7	1	0	0	1111
761	SAY	AMR*	V	7	0	0	1	1	13	1	0	0	1111
762	SCIENCE, KNOWLEDGE	MDO*	N	1	M	0	0	4	1	1	0	0	1111
763	SEA	YM**	N	1	M	0	0	4	1	1	0	0	1111
764	SEAL	XTM*	V	3	0	0	1	1	14	1	0	0	1111
765	SECOND	SN**	A	1	0	0	0	4	2	1	0	0	1111
766	SECRET	CWD*	N	1	M	0	0	4	1	1	3	0	1111
767	SEE	RAH*	V	3	0	0	1	1	14	1	0	0	1111
768	SEEK, LOOK FOR	XPS*	V	3	0	0	1	1	4	1	0	0	1111
769	SEIZE, CATCH, COMPREHEND, GRASP	TPC*	V	3	0	0	1	1	14	1	0	0	0111
770	SELL	MKR*	V	4	0	1	1	1	14	1	0	0	1111
771	SEND	SLX*	V	4	0	1	1	1	13	1	0	0	1111
772	SENTENCE, TRIAL, CASE	SP@*	N	1	M	0	0	4	12	1	0	0	1111
773	SERIOUS	R&NY	A	1	0	0	0	4	2	1	0	0	0011
774	SERVICE	SRT*	N	1	M	0	0	4	6	1	0	0	1111
775	SEW, TAILOR	TPR*	V	3	0	0	1	1	14	1	0	0	1111
776	SHE	HYA*	R	2	F	0	0	5	1	1	0	0	1111
777	SHEET (OF WRITING PAPER)	DP**	N	1	M	0	0	4	1	1	0	0	0111
778	SHEET METAL, CAN	PX**	N	1	M	0	0	4	1	1	0	0	1111
779	SHIP, VESSEL	ANY*	N	1	F	0	0	4	4	1	0	0	1111
780	SHOE	NOL*	N	1	F	0	0	4	1	1	12	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
781	SHOP, STORE	XN**	N	1	F	0	0	4	3	1	0	1	1111
782	SHORT, BRIEF	Q&R*	A	1	0	0	0	4	1	1	0	0	1111
783	SHOW (SOMEONE) (SOMETHING)	RAH*	V	4	0	1	1	1	7	1	0	0	1111
784	SHOWER, SHOWER ROOM	QLX*	N	1	F	0	0	4	12	1	0	1	0001
785	SHOW, PLAY, PRESENTATION	H&G*	N	1	F	0	0	4	1	1	0	0	0001
786	SHRINK AWAY, BE AFRAID	PXD*	V	2	0	0	1	1	13	1	0	0	1111
787	SHUT, CLOSE	CGR*	V	3	0	0	1	1	14	1	0	0	1111
788	SIDE	&D**	N	1	M	0	0	4	1	1	0	0	1111
789	SIDE	&D**	N	1	M	0	0	4	34	1	0	0	0111
790	SIGN	XTM*	V	5	0	7	1	1	14	1	0	0	1111
791	SIGN; MIRACLE	AWT*	N	1	M	0	0	4	4	1	0	0	1111
792	SIGN, INDICATION, SYMPTOM	CMN*	N	1	M	0	0	4	5	1	0	0	0111
793	SILK	MSY*	N	1	M	0	0	4	1	1	7	0	1111
794	SIMILAR	DMH*	A	1	0	0	0	4	4	1	0	0	0111
795	SIMPLE	PS@*	A	1	0	0	0	4	3	1	0	0	1111
796	SING	SYR*	V	3	0	0	1	1	14	1	0	0	1111
797	SISTER	AXWY	N	1	F	0	0	4	26	1	0	1	1111
798	SITUATION	M&B*	N	1	M	0	0	4	1	1	0	0	1111
799	SIX	SS**	B	3	F	0	0	4	1	1	0	0	1111
800	SIXTH	SSY*	A	1	0	0	0	4	5	1	0	0	1111
801	SLAIN PERSON	XLL*	N	1	M	0	0	4	1	1	0	0	1111
802	SLEEP, SLUMBER	SN**	N	1	F	0	0	4	1	1	0	0	1111
803	SLEEP	YSN*	V	2	0	0	1	1	13	1	0	0	1111
804	SLOWLY	LA@*	D	3	0	0	0	4	1	1	0	0	1111
805	SMALL	Q@N*	A	1	0	0	0	4	1	1	0	0	1111
806	SMELL, SCENT	RYX*	N	1	M	0	0	4	1	1	3	0	1111
807	SMOKE	OSN*	N	1	M	0	0	4	1	1	7	0	1111
808	SMOKE	OSN*	V	3	0	0	1	1	4	1	0	0	1111
809	SNAKE	NXS*	N	1	M	0	0	4	1	1	0	0	1111
810	SNOW	SLG*	N	1	M	0	0	4	1	1	0	0	1111

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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.  ENGLISH EQUIV.                        ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD


811  SOAP                                  CBN*  N  1  M  0  0  4  3  1  0  0   0001
812  SOCK, STOCKING                        GRB*  N  1  M  0  0  4  1  1 14  0   0001
813  SOFT, TENDER                          RK**  A  1  0  0  0  4  1  1  0  0   1111
814  SOLDIER                               XYL*  N  1  M  0  0  4  2  1  0  0   1111
815  SOME ONE                              AXD*  A  1  0  0  0  4  1  1  0  0   1111
816  SOME ONE                              AXD*  A  1  0  0  0  4 39  1  0  1   1111
817  SONG, POEM                            SYR*  N  1  M  0  0  4  1  1  0  0   1111
818  SON, CHILD                            BN**  N  1  M  0  0  4 30  1  0  0   1111
819  SOUP                                  MRQ*  N  1  M  0  0  4  1  1  0  0   1111
820  SOUTH                                 DRM*  N  1  M  0  0  4  3  1  7  0   1111
821  SO, THUS                              KKH*  D  3  0  0  0  4  1  1  0  0   0111
822  SPACE                                 XLL*  N  1  M  0  0  4  1  1  7  0   0001
823  SPEAK                                 DBR*  V  2  0  0  1  1  4  1  0  0   1111
824  SPOIL                                 QLQL  V  3  0  0  1  1  4  1  0  0   0111
825  SPOON                                 KP**  N  1  F  0  0  4  1  1  0  0   1111
826  SPRING                                ABB*  N  1  M  0  0  4  2  1  0  0   1111
827  STAFF                                 CGL*  N  1  M  0  0  4  1  1  7  0   0001
828  STAMP                                 BWL*  N  1  M  0  0  4  1  1  0  0   0001
829  STAND, CEASE TO MOVE, STOP            OMD*  V  2  0  0  1  1 14  1  0  0   1111
830  STAR                                  KKB*  N  1  M  0  0  4  4  1  0  0   1111
831  STATION                               XNH*  N  1  F  0  0  4 15  1  0  0   0001
832  STEAL                                 GNB*  V  3  0  0  1  1 14  1  0  0   1111
833  STEP                                  &OD*  N  1  M  0  0  4  1  1  0  0   1111
834  STEP, RUNG, SCALE                     DRG*  N  1  F  0  0  4 12  1  0  0   0111
835  STICK                                 MQL*  N  1  M  0  0  4  1  1  3  0   1111
836  STILL, YET, MORE                      OWD*  D  4  0  0  0  4  1  1  0  0   1111
837  STONE                                 ABN*  N  1  F  0  0  4  1  1  6  0   1111
838  STOP, CEASE, INTERRUPT                PCQ*  V  3  0  0  1  1  7  1  0  0   1111
839  STOREHOUSE, WAREHOUSE                 XCN*  N  1  M  0  0  4 12  1  0  0   0001
840  STORM                                 COR*  N  1  F  0  0  4  1  1  0  0   1111
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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
841	STORY (OF BUILDING)	QWM*	N	1	F	0	0	4	1	1	0	0	0001
842	STOVE	NWR*	N	1	M	0	0	4	17	1	0	0	1111
843	STRAW	QS**	N	1	M	0	0	4	1	1	0	0	1111
844	STREET	RXB*	N	1	M	0	0	4	3	1	3	0	1111
845	STRENGTHEN	XZQ*	V	3	0	0	1	1	4	1	0	0	1111
846	STRIKE	NKH*	V	3	0	0	1	1	7	1	0	0	1111
847	STRONG	XZQ*	A	1	0	0	0	4	1	1	0	0	1111
848	SUCCEED, PROSPER	&LX*	V	2	0	0	1	1	7	1	0	0	1111
849	SUDDENLY, ALL OF A SUDDEN	PTAM	D	3	0	0	0	4	41	1	0	0	1111
850	SUFFER, TOLERATE, BEAR	CBL*	V	3	0	0	1	1	14	1	0	0	1111
851	SUGAR	CKR*	N	1	M	0	0	4	4	1	7	0	0001
852	SUIT	XLP*	N	1	F	0	0	4	2	1	0	0	0001
853	SUITCASE	ZWD*	N	1	F	0	0	4	14	1	0	0	0001
854	SUMMER	QY&*	N	1	M	0	0	4	1	1	0	0	1111
855	SUN	SMS*	N	1	M	0	0	4	1	1	3	0	1111
856	SUN	SMS*	N	1	F	0	0	4	1	1	0	0	1111
857	SUPPORT, WELFARE	COD*	N	1	M	0	0	4	1	1	7	0	1111
858	SURE, SAFE	B@X*	A	1	0	0	0	4	3	1	0	0	1111
859	SURPLUS, CHANGE	ODP*	N	1	M	0	0	4	4	1	0	0	1111
860	SWEET	MTQ*	A	1	0	0	0	4	3	1	0	0	1111
861	TABLECLOTH, MAP	MPH*	N	1	F	0	0	4	1	1	0	0	0111
862	TABLE	SLX*	N	1	M	0	0	4	22	1	3	0	1111
863	TAIL	ZNB*	N	1	M	0	0	4	1	1	3	0	1111
864	TAILOR	XY@*	N	1	M	0	0	4	1	1	0	0	0001
865	TAKE CARE, WORRY	DAG*	V	5	0	1	1	1	13	1	0	0	1111
866	TAKE A WALK	@YL*	V	2	0	0	1	1	4	1	0	0	0001
867	TAKE	LQX*	V	3	0	0	1	1	13	1	0	0	1111
868	TAKE OUT, GIVE (PUT) OUT, SPEND	Y&A*	V	3	0	0	1	1	7	1	0	0	1111
869	TAKE (PUT, BRING) DOWN	YRD*	V	4	0	1	1	1	7	1	0	0	1111
870	TALE, STORY	CPR*	N	1	M	0	0	4	6	1	0	0	1111

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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.  ENGLISH EQUIV.                           ROOT  A  C  G  R  V  U  S  F  X  H  PERIOD

871  TALK ABOUT (SOMETHING)                   DBR*  V  5  0  2  1  1  4  1  0  0   1111
872  TASK, FUNCTION                           PQD*  N  1  M  0  0  4 16  1  0  0   0111
873  TASTE, REASON                            ωOM*  N  1  M  0  0  4  1  1  0  0   1111
874  TAX, DUE, FIXED CONTRIBUTION             MC**  N  1  M  0  0  4  1  1  0  0   1111
875  TEA                                      TH**  N  1  M  0  0  4  1  1  7  0   0001
876  TEACH                                    LMD*  V  8  0  0  1  1  4  1  0  0   1111
877  TEACHER                                  MRH*  N  1  M  0  0  4  4  1  0  0   0111
878  TEACHER                                  MRH*  N  1  F  0  0  4  4  1  0  0   0111
879  TEAKETTLE                                QMQM  N  1  M  0  0  4 41  1  0  0   0111
880  TEASPOON                                 KP**  N  1  F  0  0  4  2  1  0  1   0001
881  TELL                                     NGD*  V  4  0  1  1  1  7  1  0  0   1111
882  TEN                                      OSR*  B  4  F  0  0  4  1  1  0  0   1111
883  TENSION                                  MTX*  N  1  M  0  0  4  1  1  7  0   0001
884  TENT                                     AHL*  N  2  M  0  0  4  4  1  0  0   1111
885  TENTH                                    OSRY  A  1  0  0  0  4  2  1  0  0   1111
886  TERRIBLE                                 NRA*  A  1  0  0  0  4  4  1  0  0   1111
887  TEST, EXAMINE                            BXN*  V  3  0  0  1  1 13  1  0  0   1111
888  TEXTILE MATERIAL, FABRIC, LINEN          BD**  N  1  M  0  0  4  1  1  0  0   1111
889  THANKS                                   TWD*  N  1  F  0  0  4  1  1  0  0   1111
890  THAT, WHICH                              ASR*  R  4  0  0  0  5  1  1  0  0   1111
891  THE                                      H***  H  1  0  0  0  7  1  1  0  0   1111
892  THE OBJECT PARTICLE                      AT**  O  1  0  0  0  6  1  1  0  0   1111
893  THEME, TOPIC                             NSA*  N  1  M  0  0  4  4  1  0  0   1111
894  THEN                                     AZ**  D  1  0  0  0  4  1  1  0  0   1111
895  THERE IS (ARE) NOT                       AYN*  L  2  0  0  0  6  5  1  0  0   1111
896  THERE                                    SM**  D  2  0  0  0  4  1  1  0  0   1111
897  THEREFORE                                LKN*  C  8  0  0  0  7  1  1  0  0   1111
898  THESE                                    ALH*  R  1  M  0  0  5  1  1  0  0   1111
899  THESE                                    ALH*  R  1  F  0  0  5  1  1  0  0   1111
900  THEY (MALES)                             HM**  R  2  M  0  0  5  1  1  0  0   1111
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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

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NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
901	THEY (FEMALES)	HN**	R	2	F	0	0	5	1	1	0	0	1111
902	THICK	OBH*	A	1	0	0	0	4	1	1	0	0	0111
903	THIN	DQ**	A	1	0	0	0	4	1	1	0	0	1111
904	THING, FACT	DBR*	N	1	M	0	0	4	1	1	0	0	1111
905	THINK	XSB*	V	7	0	0	1	1	14	1	0	0	1111
906	THINK ABOUT	XSB*	V	5	0	7	1	1	14	1	0	0	1111
907	THIRD (PART)	SLS*	N	1	M	0	0	4	2	1	0	0	0111
908	THIRD	SLSY	A	1	0	0	0	4	2	1	0	0	1111
909	THIRSTY	&MA*	A	1	0	0	0	4	1	1	0	0	1111
910	THIS	ZH**	R	1	M	0	0	5	1	1	7	0	1111
911	THIS	ZW**	R	1	F	0	0	5	1	1	7	0	1111
912	THOUSAND	ALP*	B	6	M	0	0	4	1	1	0	0	1111
913	THREAD, WIRE, STRING	XW@*	N	1	M	0	0	4	1	1	0	0	0111
914	THREE	SLS*	B	3	F	0	0	4	3	1	0	0	1111
915	THROW OFF, THROW AWAY	ZRQ*	V	3	0	0	1	1	14	1	0	0	1111
916	THUS	KK**	D	3	0	0	0	4	1	1	0	0	0111
917	TICKET, CARD	KR@C	N	1	M	0	0	4	42	1	0	0	0111
918	TIE, FORM A LIEN	QSR*	V	3	0	0	1	1	14	1	0	0	1111
919	TILL, UNTIL, UP TO	OD**	C	4	0	0	0	6	1	1	0	0	1111
920	TIME	POM*	N	1	F	0	0	4	1	1	0	0	1111
921	TIME	ZMN*	N	1	M	0	0	4	1	1	0	0	1111
922	TIRED	OYP*	A	1	0	0	0	4	2	1	0	0	1111
923	TO	AL**	P	6	0	6	0	6	1	1	0	0	1111
924	TO BE PRINTED	DPC*	V	2	0	0	2	1	3	1	0	0	0001
925	TO BE	HYH*	V	1	0	0	1	1	14	1	0	0	1111
926	TO BE ANGRY	KOC*	V	2	0	0	1	1	13	1	0	0	1111
927	TO BE ANGRY AT	KOC*	V	5	0	7	1	1	13	1	0	0	1111
928	TO BE GLAD, REJOICE	SMX*	V	2	0	0	1	1	13	1	0	0	1111
929	TO ERR	@OH*	V	2	0	0	1	1	14	1	0	0	0111
930	TO HAVE SEXUAL INTERCOURSE	SKB*	V	5	0	8	1	1	13	1	0	0	1111

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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.  ENGLISH EQUIV.                          ROOT  A  C  G  R  V  U  S  F  X  H   PERIOD

931  TO PLANT                                NPO*  V  3  0  0  1  1 13  1  0  0   1111
932  TOGETHER                                YXD*  D  3  0  0  0  4  1  1  0  0   1111
933  TOMORROW                                MXR*  D  1  0  0  0  4  1  1  0  0   1111
934  TONGUE, LANGUAGE                        LSN*  N  1  F  0  0  4  3  1  2  0   1111
935  TOOTH                                   SN**  N  1  F  0  0  4  1  1 12  0   1111
936  TOUCH                                   NGO*  V  5  0  2  1  1 13  1  0  0   1111
937  TOWEL                                   MGB*  N  1  F  0  0  4  1  1  0  1   0001
938  TRAIN                                   RKB*  N  1  F  0  0  4  1  1  0  1   0001
939  TRANSLATE                               TRGM  V  3  0  0  1  1  4  1  0  0   1111
940  TRAVEL                                  NCO*  V  5  0  6  1  1 13  1  0  0   1111
941  TREE, TIMBER, WOOD                      O&**  N  1  M  0  0  4  1  1  0  0   1111
942  TROUBLE, INCONVENIENCE, MISFORTU        &R**  N  1  F  0  0  4  1  1  0  0   1111
943  TROUSERS                                NKNC  N  1  M  0  0  4  1  1 14  0   1111
944  TRUST                                   AMN*  V  5  0  1  1  1  7  1  0  0   1111
945  TRUTH                                   AMT*  N  1  F  0  0  4  7  1  0  1   1111
946  TRY                                     NCH*  V  3  0  0  1  1  4  1  0  0   1111
947  TURN, ADDRESS, APPLY TO                 PNH*  V  5  0  6  1  1 14  1  0  0   1111
948  TWO                                     SN**  B  3  F  0  0  4 30  1  0  0   1111
949  TWO                                     SN**  B  2  M  0  0  4 30  1  0  0   1111
950  UNCLE                                   DWD*  N  1  M  0  0  4  1  1  0  0   1111
951  UNDERSTAND                              BYN*  V  3  0  0  1  1  7  1  0  0   1111
952  UNDER, INSTEAD OF                       TXT*  P 13  0  0  0  6  1  1  0  0   1111
953  UNMARRIED                               RWQ*  A  1  0  0  0  4  3  1  0  0   0111
954  UNOCCUPIED, EMPTY                       PNY*  A  1  0  0  0  4  3  1  0  0   0111
955  URGENT                                  DXP*  A  1  0  0  0  4  3  1  0  0   0111
956  VALLEY                                  OMQ*  N  1  M  0  0  4  1  1  0  0   1111
957  VEGETABLE, GREENNESS                    YRQ*  N  0  M  0  0  4  1  1 10  0   1111
958  VERSE, RHYME, BEAD                      XRZ*  N  1  M  0  0  4  3  1  0  0   1111
959  VERY                                    MAD*  D  4  0  0  0  4  3  1  0  0   1111
960  VETERAN, OF LONG STANDING               WTQ*  A  1  0  0  0  4  2  1  0  0   0111
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COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
961	VILLAGE	KPR*	N	1	M	0	0	4	1	1	0	0	0111
962	VINEYARD	KRM*	N	1	M	0	0	4	1	1	0	0	1111
963	VISIT	BQR*	V	3	0	0	1	1	4	1	0	0	1111
964	VOICE	QWL*	N	1	M	0	0	4	1	1	3	0	1111
965	VOLUME, BUNDLE, SCROLL	KRK*	N	1	M	0	0	4	1	1	0	0	0111
966	WAIT	XKH*	V	5	0	1	1	1	4	1	0	0	1111
967	WAITER	ML&R	N	1	M	0	0	4	1	1	0	0	0001
968	WALK, GO	HLK*	V	2	0	0	1	1	12	1	0	0	1111
969	WALL	QYR*	N	1	M	0	0	4	1	1	3	0	1111
970	WANT, WISH, DESIRE, LIKE	R&H*	V	3	0	0	1	1	14	1	0	0	1111
971	WANT, WISH, DESIRE, LIKE	R&H*	V	5	0	2	1	1	14	1	0	0	1111
972	WAR	LXM*	N	1	F	0	0	4	12	1	0	0	1111
973	WASH	RX&*	V	3	0	0	1	1	13	1	0	0	1111
974	WASH, TAKE A BATH	RX&*	V	2	0	0	3	1	6	1	0	0	1111
975	WATCH, OBSERVE	SMR*	V	3	0	0	1	1	12	1	0	0	1111
976	WATERMELON	BQX*	N	1	M	0	0	4	40	1	0	0	0001
977	WATER	MYM*	N	1	M	0	0	4	1	1	14	0	1111
978	WAY, STYLE	APN*	N	1	M	0	0	4	4	1	0	0	0001
979	WAY, ROAD	DRK*	N	1	F	0	0	4	1	1	6	0	1111
980	WAY, ROAD	DRK*	N	1	M	0	0	4	1	1	6	0	1111
981	WE	NXNW	R	2	M	0	0	5	7	1	0	0	1111
982	WE	NXNW	R	2	F	0	0	5	7	1	0	0	1111
983	WEAK	XLS*	A	1	0	0	0	4	1	1	0	0	1111
984	WEAPON, ARMS	NSQ*	N	1	M	0	0	4	1	1	7	0	1111
985	WEEK	SBO*	N	1	M	0	0	4	3	1	3	0	1111
986	WEEP, CRY	BKH*	V	2	0	0	1	1	14	1	0	0	1111
987	WEIGH	SQL*	V	3	0	0	1	1	14	1	0	0	1111
988	WEIGHT, SCALE	SQL*	N	1	M	0	0	4	12	1	3	0	1111
989	WEIGHT, SCALE	SQL*	N	1	M	0	0	4	12	1	0	0	1111
990	WELL	BAR*	N	1	F	0	0	4	1	1	0	0	1111

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
991	WELL, HEALTHY	BRA*	A	1	0	0	0	4	2	1	0	0	1111
992	WEST	ORP*	N	1	M	0	0	4	12	1	7	0	1111
993	WET	RQB*	A	1	0	0	0	4	3	1	0	0	1111
994	WHAT?	MH**	R	5	0	0	0	5	1	1	0	0	1111
995	WHEEL	GLGL	N	1	M	0	0	4	1	1	0	0	1111
996	WHEN	KASR	C	4	0	0	0	7	1	1	0	0	1111
997	WHEN	KS**	C	4	0	0	0	7	1	1	0	0	0011
998	WHEN	MTY*	Q	2	0	0	0	7	1	1	0	0	1111
999	WHERE	AYPH	Q	2	0	0	0	4	1	1	0	0	1111
1000	WHERE, WHITHER	LAN*	Q	2	0	0	0	4	1	1	0	0	1111
1001	WHICH?	AYZH	R	5	M	0	0	5	5	1	0	0	1111
1002	WHISPER	LXS*	N	1	M	0	0	4	1	1	0	0	1111
1003	WHITE	LBN*	A	1	0	0	0	4	1	1	0	0	1111
1004	WHO?	MY**	R	5	0	0	0	5	1	1	0	0	1111
1005	WHY	LMH*	Q	2	0	0	0	4	1	1	0	0	1111
1006	WIDTH	RXB*	N	1	M	0	0	4	4	1	7	0	1111
1007	WILL, INTENT, WISH	R&W*	N	1	M	0	0	4	22	1	3	0	1111
1008	WIND, SPIRIT, GHOST, DISPOSITION	RWX*	N	1	M	0	0	4	1	1	3	0	1111
1009	WIND, SPIRIT, GHOST, DISPOSITION	RWX*	N	1	F	0	0	4	1	1	2	0	1111
1010	WINE	YYN*	N	1	M	0	0	4	1	1	3	0	1111
1011	WINTER	XRP*	N	1	M	0	0	4	4	1	0	0	1111
1012	WIPE OUT, RUB OUT	MXQ*	V	3	0	0	1	1	13	1	0	0	1111
1013	WISE	XKM*	A	1	0	0	0	4	1	1	0	0	1111
1014	WITH	OM**	P	8	0	8	0	6	1	1	0	0	1111
1015	WITHOUT	BLY*	P	13	0	13	0	4	1	1	0	0	1111
1016	WOMAN	AYNS	N	1	F	0	0	4	25	1	4	0	1111
1017	WONDERFUL	PLA*	A	1	0	0	0	4	18	1	0	0	1111
1018	WOOL	&MR*	N	1	M	0	0	4	1	1	7	0	1111
1019	WORK, JOB	OBD*	N	1	F	0	0	4	3	1	0	0	1111
1020	WORK, SERVE	OBD*	V	2	0	0	1	1	14	1	0	0	1111

COMPUTERIZED ENGLISH TO HEBREW DICTIONARY

NO.	ENGLISH EQUIV.	ROOT	A	C	G	R	V	U	S	F	X	H	PERIOD
1021	WORK, SERVE	UBD*	V	3	0	0	1	1	14	1	0	0	1111
1022	WORTHY, DESERVING	KDAY	A	1	0	0	0	4	1	1	0	0	0111
1023	WORTHY, DESERVING	KDAY	D	4	0	0	0	4	1	1	0	0	0111
1024	WOUND, INJURY	P&O*	N	1	M	0	0	4	1	1	0	0	1111
1025	WRITER, REPORTER	CPR*	N	1	M	0	0	4	4	1	0	0	1111
1026	WRITE	KTB*	V	3	0	0	1	1	14	1	0	0	1111
1027	WRITE DOWN, NOTE, REGISTER	RSM*	V	3	0	0	1	1	14	1	0	0	1111
1028	(A) GLASS	KWC*	N	1	F	0	0	4	1	1	0	0	1111
1029	YEAR	SN**	N	1	F	0	0	4	1	1	0	0	1111
1030	YELLOW	&HB*	A	1	0	0	0	4	3	1	0	0	1111
1031	YES	KN**	D	3	0	0	0	4	1	1	0	0	1111
1032	YESTERDAY	ATML	D	1	M	0	0	4	8	1	0	0	1111
1033	YOU (ONE FEMALE)	AT**	R	2	F	0	0	5	1	1	0	1	1111
1034	YOU (ONE MALE)	ATH*	R	2	M	0	0	5	1	1	0	0	1111
1035	YOU (MALES)	ATM*	R	2	M	0	0	5	1	1	0	0	1111
1036	YOU (FEMALES)	ATN*	R	2	F	0	0	5	1	1	0	0	1111
1037	YOUNG MAN, BOY, GUY	BXR*	N	1	M	0	0	4	3	1	0	0	1111
1038	YOUNG LADY, GIRL	BXR*	N	1	F	0	0	4	3	1	0	0	1111
1039	YOUNG	&OR*	A	1	0	0	0	4	2	1	0	0	1111
1040	(PAVED) ROAD	KBS*	N	1	M	0	0	4	2	1	0	0	0001